

SECTOR 4

ENGLAND—THE THAMES ESTUARY

Plan.—This sector describes the estuary of the River Thames and the outer passages between Orford Ness and North Foreland. Also included is a description of the channels through the estuary and along the adjacent coasts. The general descriptive sequence is from seaward to the entrance of the River Thames.

General Remarks

4.1 The estuary of the River Thames is entered between Orford Ness and North Foreland. It extends as far W as The Nore (51°29'N., 0°51'E.), at the entrance to the river itself. This triangular space enclosed within these three points is greatly encumbered by shoals and banks, many of which dry. Between these banks are several channels which lead to Harwich and the River Thames. The estuary proper, may be said to be contained between The Naze (51°52'N., 1°17'E.) and Shoebury Ness, 28 miles SW, on its N side, and North Foreland and Garrison Point, 27 miles W, on its S side. In this funnel shaped area are numerous long and narrow shoals which generally run in NE and SW directions.

In using the channels, vessels, as a rule, have to depend on the buoys and beacons which mark the banks and shoals, as, although there are many conspicuous landmarks standing on the N and S shores of the estuary, they are not usually available because of the lowness of the land and the prevailing poor visibility.

Soundings should be taken continuously for, although the charts give the depths at the last survey, changes are often frequent and rapid. It is equally important to be aware of the state of the tide and tidal current conditions.

Tides—Currents.—Tides at the Shivering Sand Tower (51°30'N., 1°05'E.), in the vicinity of Knob Channel, rise about 5.2m at springs and 4.1m at neaps.

Negative surges are important as they result in reduced underkeel clearances. They occur in the S part of the North Sea as a result of local S or SW winds and are most frequent during December and January, but are rare in summer. The Thames Estuary is the area most affected by these surges. In February 1968, the level in the estuary was 0.6m below that predicted for 24 hours, the lowest level being 1.8m below that predicted. The largest recorded surge occurred at Sheerness during December 1982, with a level of 2.25m below that predicted, which remained 1m below for over 12 hours.

There is no evidence of any appreciable permanent current in the Thames Estuary. Strong currents may occur during and after tidal surges, which can augment the tidal currents or tend to cancel them out.

Between Orford Ness (52°05'N., 1°35'E.) and Kentish Knock (51°39'N., 1°37'E.), there is little or no variation of the times at which the tidal currents begin. However, off North Foreland (51°23'N., 1°27'E.), they begin 1 hour 30 minutes earlier than at Kentish Knock. The times at which the tidal currents begin

become progressively later farther W and off the entrances to the River Medway and the River Thames, the tidal currents begin 1 hour 15 minutes later than in the outer approaches.

In the outer part of the estuary, the general direction of the tidal currents is SSW on the flood and NNE on the ebb. Farther in, the tidal currents set in the direction of the channels. There may be eddies towards the sides of these channels and at entrances to swatchways.

Pilotage.—The seaward limit of the Port of London Pilotage Area is bounded by the following positions:

1. Foulness Point (51°37.0'N., 0°57.3'E.).
2. Gunfleet Old Lighthouse (51°46.1'N., 1°20.5'E.).
3. Long Sand Head (51°48.0'N., 1°40.0'E.).
4. Position 51°36.00'N, 1°23.08'E.
5. Position 51°26.60'N, 1°25.50'E.
6. Warden Point (51°24.9'N., 0°54.4'E.).

The inner limit of the Pilotage Area is on the River Thames at Putney Bridge.

Pilotage is compulsory, as follows:

1. Within the Outer Area, which extends between the seaward limit of the Pilotage Area and Sea Reach Lighted Buoy No. 1 (51°29.4'N., 0°52.5'E.), for the following:

- a. Vessels over 90m in length.
- b. Vessels over 50m in length that are passenger vessels or vessels carrying marine pollutants in bulk.
- c. Vessels between 50m and 90m in length, with a draft of over 6m.
- d. Vessels between 50m and 90m in length, with a draft of over 4m, when restricted visibility exists or develops in the Pilotage Area.

2. Within the Inner Area, which extends between Sea Reach Lighted Buoy No. 1 and Putney Bridge, for the following:

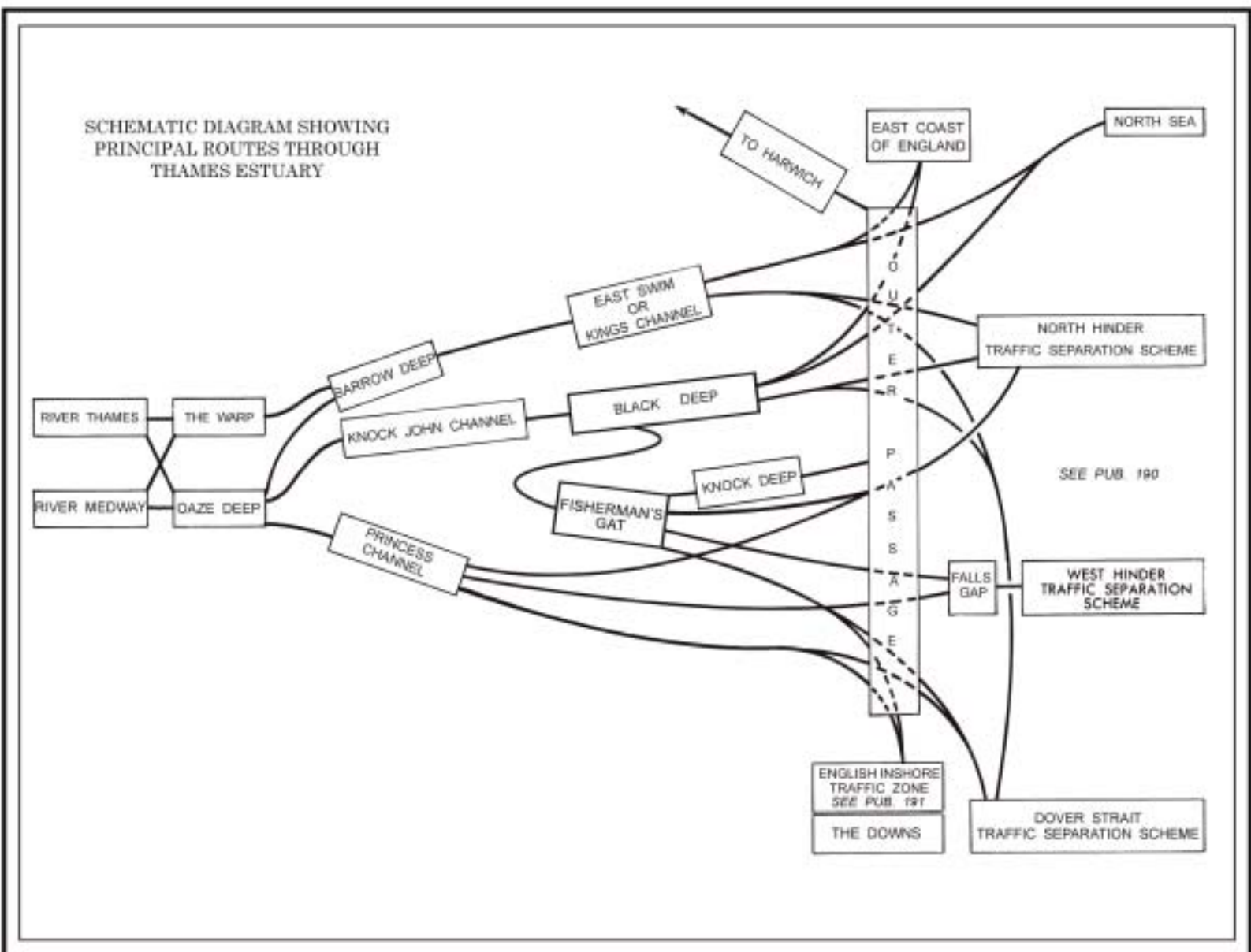
- a. Vessels over 80m in length.
- b. Vessels over 50m in length that are passenger vessels or vessels carrying marine pollutants in bulk.
- c. Vessels over 50m in length, with a draft of over 5m.
- d. Vessels over 50m in length, with a draft of over 4m, when restricted visibility exists or develops in the Pilotage Area.

A separate authorization is required for pilotage within the Thames Barrier Control Zone.

Inbound vessels should send an ETA message, with mandatory pilotage details, to Port Control London 24 hours prior to arrival at the boarding position, or within 1 hour of departure from their last port of call, if less than 24 hours.

A confirmation of the ETA should be sent not later than 8 hours in advance to Port Control London and to the NE Spit pilot station by VHF 2 hours before arrival.

Any changes to the ETA should be sent to Port Control London and the agent until 4 hours before the declared ETA, after which vessels should contact the appropriate pilot station by VHF.



Outbound vessels, vessels shifting berth, and vessels departing from an anchorage should send an ETD and mandatory pilotage details (see list under Vessel Traffic Service) to Port Control London 24 hours in advance, reporting any changes as necessary. Outbound vessels and vessels shifting berth requiring pilotage should confirm their ETD not later than 4 hours in advance.

Pilots for the Port of London may be embarked at one of three pilot stations. In addition, it may be necessary to change pilots off Gravesend, about 0.2 mile N of Royal Terrace Pier, for vessels bound for the upper reaches of the River Thames. Port Control London will arrange this change if it is necessary.

The pilot boarding positions are, as follows:

1. NE Spit Pilot Station (Ramsgate)—All vessels, not constrained by draft, approaching from the S or E, or departing ports to the S or E, and all vessels with a draft of less than 6m, will be permitted, subject to weather conditions, to embark and disembark the pilot in position 51°25'N, 1°30'E, between NE Spit Lighted Buoy and Elbow Lighted Buoy.

2. Sunk Pilot Station (Harwich)—Vessels embark pilots in position 51°51.4'N, 1°40.5'E (3.5 miles E of Sunk Light Vessel. This station also provides pilots for Harwich, Felixstowe, Ipswich, and Mistley (Haven Ports).

3. Warp/Oaze Deep Pilot Station (Sheerness)—Vessels which are exempt from compulsory pilotage in the Outer Area will, subject to weather conditions, embark and disembark pilots, as follows:

- a. For inbound vessels using Black Deep, Fisherman's Gat, Princes Channel, or Knob Gat Channel in position 51°29.2'N, 0°59.3'E (Oaze Deep).

- b. For inbound vessels using Mouse Channel or Barrow Deep Channel in position 51°30.7'N, 0°57.0'E (The Warp).

Vessels requiring a pilot to embark or disembark at a port on the European continent or at a United Kingdom port outside the London Pilotage Area should send a request to Port Control London at least 5 days in advance.

A Precautionary Area, which may best be seen on the chart, has been established in the vicinity of Sunk Light Float.

Regulations.—A mandatory Vessel Traffic Service (VTS) system operates in the approaches to the Port of London and is managed by Port Control London, located at Gravesend, and Woolwich Radio, located at the Thames Barrier Navigation Center.

Port Control London provides a traffic organization service between the seaward approaches and Crayford Ness (51°29.1'N., 0°12.6'E.). This station may be contacted on VHF channel 12 when E of Sea Reach No. 4 Lighted Buoy (51°29.6'N., 0°44.3'E.) and on VHF channel 68 when W of it.

Woolwich Radio provides a traffic organization service in the tidal area of the Thames above Crayford Ness. This station may be contacted on VHF channel 14.

All vessels over 50 grt or over 40m in length are designated as Reporting Vessels.

All inbound Reporting Vessels must send an ETA message, with appropriate details (see the accompanying table below), to Port Control London 24 hours in advance or within 1 hour of departure from the last port of call.

Reporting Vessels within the VTS area should maintain a continuous listening watch on the appropriate area frequency

and should advise the designated shore station prior to changing to another frequency or closing down.

Designator	Information Required
*A	Vessel's name, nationality, call sign, and MMSI number.
*B	GRT.
*C	Length (meters).
*D	Draft and list (if any).
E1 or	Last port and intended approach channel.
E2 or	Next port and intended departure channel.
E3	If shifting berth, location of new berth.
F	If an anchorage is required.
*G	If a pilot is required.
*H1 or	ETA and required pilot boarding station.
*H2 or	ETD and pilot disembarkation station.
*H3	If shifting berth, ETD from present berth.
I	If navigating under a Pilotage Exemption Certificate, name and number.
*J	Name of berth in Port of London.
K	Details of any damage to vessel.
L	Cargo status (in ballast, loaded etc.).
M	Details of any hazardous or pollutant commodities on board.
*N	Maneuvering and sea speed.
* Denotes items mandatory for pilotage request messages.	

Vessels over 20m in length and vessels certified to carry more than 12 passengers, which are not Reporting Vessels, are required to maintain a continuous VHF listening watch.

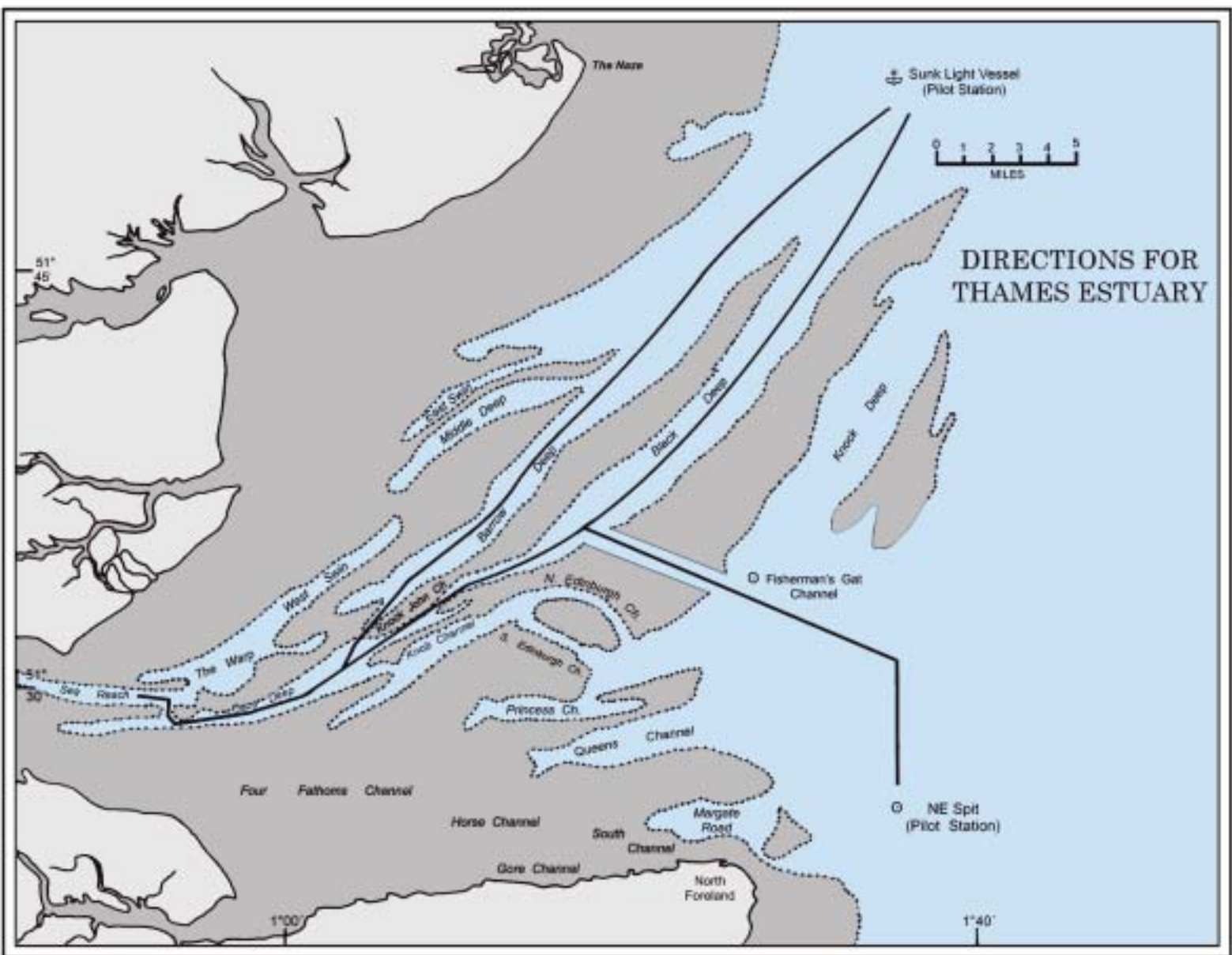
Pleasure craft are encouraged to participate.

Reporting Vessels within the VTS area are required to report when anchoring, berthing, or entering a lock. In addition, they should report immediately the occurrence of being involved in or sighting a collision, stranding, fire, or other accident; a machinery or steering breakdown; a personal injury or recovery of a casualty from the river; or a spillage of oil.

All inbound Reporting Vessels must contact Port Control London on VHF channel 12 and obtain clearance for continued transit at the following outer estuary Reporting Points:

1. In Sunk VTS area—Vessels will be directed on passing Sunk Light Vessel or Long Sand Head Lighted Buoy (51°48'N., 1°40'E.) to call Port Control London on VHF channel 12. Vessels should state their intended route for transit and request clearance. After being informed of the traffic routing information, vessels should return to monitor Sunk VTS on VHF channel 14 until finally clear of the Sunk VTS area (see Sunk VTS under Harwich-Port of Felixstowe Regulations).

2. At position 51°33.5'N, 1°35.0'E (SE of S Knock Lighted Buoy).



3. At position 51°29.0'N, 1°50.0'E (N of Falls Head Lighted Buoy).

4. At position 51°20.5'N, 1°35.2'E (E of NE Goodwin Lighted Buoy).

All inbound Reporting Vessels should report to Port Control London on VHF channel 12 when passing the following Reporting Points:

1. In Barrow Deep, Mouse Channel, and The Warp:
 - a. Sunk Head Tower.
 - b. Barrow No. 2 Lighted Buoy.
 - c. Barrow No. 6 Lighted Buoy.
 - d. Barrow No. 10 Lighted Buoy.
 - e. N Oaze Lighted Buoy (inbound only).
 - f. Sea Reach No. 1 Lighted Buoy (outbound only).
 - g. Sea Reach No. 4 Lighted Buoy (frequency change).
2. In Black Deep, Knock John Channel, and Oaze Deep:
 - a. Sunk Head Tower.
 - b. Black Deep No. 3 Lighted Buoy.
 - c. Black Deep No. 7 Lighted Buoy.
 - d. Knock John No. 7 Lighted Buoy.
 - e. SW Oaze Lighted Buoy (inbound only).
 - f. Sea Reach No. 1 Lighted Buoy (outbound only).
 - g. Sea Reach No. 4 Lighted Buoy (frequency change).
3. In Fisherman's Gat, Knob Channel, or Knock John Channel:
 - a. S Knock Lighted Buoy or NE Spit Lighted Buoy (inbound only as appropriate).
 - b. Outer Fisherman Buoy.
 - c. Black Deep No. 7 Lighted Buoy.
 - d. Knock John No. 7 Lighted Buoy (Knock John Channel only).
 - e. Tizard Lighted Buoy (Knob Channel only).
 - f. Shivering Sand Tower (Knob Channel only).
 - g. SW Oaze Lighted Buoy (inbound only).
 - h. Sea Reach No. 1 Lighted Buoy (outbound only).
 - i. Sea Reach No. 4 Lighted Buoy (frequency change).
4. In Princes Channel:
 - a. S Knock Lighted Buoy or NE Spit Lighted Buoy (inbound only as appropriate).
 - b. Princes Lighted Buoy.
 - c. Shivering Sand Tower.
 - d. SW Oaze Lighted Buoy (inbound only).
 - e. Sea Reach No. 1 Lighted Buoy (outbound only).
 - f. Sea Reach No. 4 Lighted Buoy (frequency change).

For Reporting Points located W of Sea Reach No. 4 Lighted Buoy, see paragraph 5.1.

Vessels using the inshore passages should report to Port Control London on VHF channel 12 when passing S Whitaker Lighted Buoy and Maplin Lighted Buoy or SE Margate Lighted Buoy and Spaniard Lighted Buoy, as appropriate.

Vessels entering or leaving the River Medway should report to Port Control London on VHF channel 12 when approaching Medway Lighted Buoy (51°29'N., 0°53'E.) (see paragraph 5.19 for details of the Medway VTS system).

Information broadcasts, including state of traffic, visibility, tide heights, and other general marine bulletins are given by the Port Control London on VHF channel 68 on the hour and 30 minutes past the hour and on VHF channel 12 at 15 and 45 minutes past the hour. Information broadcasts are also given by

Woolwich Radio on VHF channel 14, at 15 and 45 minutes past every hour.

Details of a major incident (alongside or underway) in the river between Sea Reach No. 1 Lighted Buoy and Crayford Ness will be broadcast by Port Control London using the code word POLACAP.

Details of a major incident to seaward of Sea Reach No. 1 lighted buoy will be broadcast by Port Control London using the code word POLASEA.

Details of a major incident above Crayford Ness will be broadcast by Woolwich Radio using the code word POLA-RIVER.

These code words signify that the Port of London has initiated a combined accident procedure. All vessels should maintain their present listening watch, minimize all radio broadcasts, and be prepared to receive specific traffic regulation instructions.

Note.—For details of Sunk VTSS system and Harwich (Port of Felixstowe) VTS system, see paragraph 4.16.

For details of Reporting Points in the River Thames above Sea Reach No. 4 Lighted Buoy and the Medway VTS system, see paragraph 5.1.

Anchorage.—Vessels may anchor for an unlimited period in any of the designated anchorage areas. Information on berths available in these anchorages can be obtained from the appropriate Port Operation and Information Service. The position of a vessel when anchored should always be reported to the Thames Navigation Service.

The following are the designated anchorages:

1. Tongue Deep Draft Anchorage (51°31'N., 1°29'E.).
2. Knob Deep Draft Anchorage (51°31'N., 1°04'E.).
3. Sunk Deep Draft Anchorage (51°54'N., 1°40'E.).
4. Black Deep Deep Draft Anchorage (51°38'N., 1°21'E.).
5. Inner Sunk Anchorage (51°50'N., 1°30'E.).
6. Southend and Warp Deep Draft Anchorage (51°31'N., 0°56'E.).
7. East Spile Tanker Anchorage (51°29'N., 0°55'E.).
8. Oaze Small Ship Anchorage (51°31'N., 1°00'E.).
9. Great Nore Anchorage (51°29'N., 0°48'E.).

The East Spile Tanker Anchorage is generally used by vessels up to 240m in length.

The Knob Deep Draft Anchorage is reserved for vessels nominated by the Port of London Authority and is generally used by VLCCs.

Caution.—Vessels should navigate with extreme caution in the vicinity of Sunk Light Vessel and in the approaches to Harwich Harbor, as a high density of deep-draft vessels and crossing traffic may be encountered.

Approaches to the Thames Estuary

4.2 Outer Passage (51°55'N., 1°48'E.) is the channel which leads across the approach to the entrance of the Thames Estuary. It leads from a position about 9 miles E of Orford Ness to a position about 11 miles E of North Foreland, 43 miles S. Inner and Outer Gabbard, Galloper, North Falls, and South Falls banks lie on its E side; Shipwash, Long Sand, and Kentish Knock banks lie on its W side. The channel is 8 miles wide, free of dangers, and connects the coastal routes off the E

coast of England to those in the Dover Strait (see Directions in paragraph 4.4).

The passage has a least depth of 18.1m (1998). However, several wrecks, with lesser depths, lie adjacent to the E and S sides of Shipwash.

Outer Gabbard (51°58'N., 2°03'E.), located 19 miles ESE of Orford Ness, has a least depth of 4.3m; a tide ripple shows over it in calm weather. Several shoal patches, with depths of 16.5 to 18m, lie off its N and S ends.

Outer Gabbard Lighted Buoy (51°58'N., 2°04'E.), equipped with a racon, is moored about 1 mile E of this shoal bank.

Inner Gabbard (51°54'N., 1°54'E.), the N end of which lies 14.5 miles ESE of Orford Ness, has a least depth of 3.6m. Lighted buoys mark the N and S ends of this bank; another shoal ridge, with a least depth of 10.6m, lies centered 4 miles NNE of its N end.

Gallop (51°47'N., 1°58'E.), located 23 miles SE of Orford Ness, has a least depth of 2.4m and is about 6 miles long. Its N end is marked by a lighted buoy and its S end is marked by a lighted buoy, equipped with a racon.

North Falls (51°39'N., 1°56'E.), located about 3 miles S of Gallop and 25 miles NE of North Foreland, is about 5.5 miles long. Four Mile Knolls or North Falls Head, the shallowest part of this shoal ridge, lies about 1 mile within its N end and has a least depth of 9.5m; North Falls Tail is the name given to the S end of this ridge.

South Falls (51°25'N., 1°49'E.), located about 13 miles E of North Foreland, lies on the same ridge as North Falls. From South Falls Head, its N extremity, this shoal extends SSW for about 14.5 miles to Tail of the Falls, its S extremity. South Falls has a least depth of 7m and is marked by lighted buoys moored at the N and S ends and along its E side.

Falls Gap (51°33'N., 1°53'E.), 8 miles wide, lies between North Falls and South Falls banks and is the principal channel through the outer chain of shoals to the Outer Passage. Vessels also may pass between the S end of Gallop and Four Mile Knolls.

Inter-Bank Lighted Buoy (51°17'N., 1°52'E.), equipped with a racon, is moored 6 miles NE of the S end of South Falls within a Traffic Separation Scheme.

Note.—For details of the Traffic Separation Scheme and shoal banks lying to the E and SE of South Falls and S of North Foreland, see paragraph 6.5 and Pub. 191, Sailing Directions (Enroute) English Channel.

4.3 Drill Stone (51°26'N., 1°42'E.), lying 9.5 miles ENE of North Foreland, has depths of 11 to 18m and is marked by strong ripples. A lighted buoy is moored close E of the shallowest part of this shoal.

Shipwash (51°57'N., 1°37'E.), located at the N end of the W side of the Outer Passage, extends SSW for about 9 miles from a position 4.2 miles SSE of Orford Ness and almost dries in places. Lighted buoys are moored along the E and W sides of this shoal and at its S end. A lighted buoy, equipped with a racon, is moored at its N end.

Several dangerous wrecks lie in the vicinity of this shoal and may best be seen on the chart.

Long Sand (51°38'N., 1°26'E.), a bank about 19 miles long, is divided into two parts by Fishermans Gat. Long Sand Head

(51°46'N., 1°36'E.), the N extremity of the N part, lies about 7 miles SSE of the S end of Shipwash. Long Sand shoal dries in many places and is marked at its N end and along its NW side by lighted buoys. In addition, several beacons stand on this shoal and may best be seen on the chart.

Sunk (51°52'N., 1°35'E.) is the area lying between the S end of Shipwash and the N end of Long Sand. This area forms the point of entry for vessels proceeding from the NE into Black Deep and East Swin or King's Channel, the main passages leading to the River Thames.

Sunk Light Vessel (51°51'N., 1°35'E.) is moored about midway between Shipwash and Long Sand. It is painted red and equipped with a racon.

Kentish Knock (51°39'N., 1°37'E.), a shoal bank about 8 miles long, lies 3 miles E of Long Sand and is separated from it by Knock Deep. This bank dries in places and the sea breaks over the shallowest parts. It is marked on the S and E sides by lighted buoys.

Caution.—Several sand waves, which frequently change both in height and position, lie within areas extending 6 miles N from Long Sand Head and 2 miles SSE from Sunk Light Vessel. These are of particular significance to deep-draft vessels, as depths up to 2m shallower than charted have been reported.

Numerous wrecks, some dangerous, lie in the vicinity of the Outer Passage and may best be seen on the chart.

4.4 Directions.—When navigating the Outer Passage, which is also known as the Through Route, across the Thames Estuary, the height of the tide and the state of the tidal currents are the most important factors to be considered and the tide tables and charts should be consulted. Near the edge of the shoal banks, the currents are reported to run obliquely over them. In addition, vessels should continuously sound the bottom.

Although the Outer Passage is wide, southbound vessels usually keep on its W side. From W of Aldeburgh Napes, lying NE of Orford Ness, vessels should steer a S course to pass about 2 miles E of the N end of Shipwash. They should then pass between the S end of Shipwash and Inner Gabbard. Vessels should continue S, passing E of Kentish Knock, and shape a course to lead E of Elbow Lighted Buoy and E of North Foreland.

Vessels from the N part of the North Sea can pass to the E of Aldeburgh Napes and then proceed directly between the S end of Shipwash and Inner Gabbard.

All southbound vessels may then proceed S for either Gull Stream and The Downs, the English Inshore Traffic Zone, or the Dover Strait Traffic Separation Scheme. See Pub. 191, Sailing Directions (Enroute) English Channel for further information.

Vessels bound for the N part of the North Sea usually keep to the E side of the Outer Passage. They pass W of South Falls, E of Drill Stone, W of North Falls, W of Gallop, W of Inner Gabbard, and E of Aldeburgh Napes.

Vessels approaching the Outer Passage from the E may pass either through Falls Gap, between the S end of Gallop and Four Mile Knolls, N of Gallop then S of Inner Gabbard, or N of the Outer Gabbard then N of Inner Gabbard.

Pilot boarding stations for the Thames, Medway, and Harwich Haven (Felixstowe) are situated E of Sunk Light Vessel (51°51'N., 1°35'E.).

Vessels can proceed in a SW direction from these boarding stations into the N entrance of East Swin or King's Channel. In addition, two Deep-Water Routes, which may best be seen on the chart, lead from the vicinity of the boarding stations into the N entrance of Black Deep.

Trinity Deep Water Route leads directly SW. It passes about 2.2 miles SE of Sunk Light Vessel and 0.2 mile SE of Trinity Lighted Buoy (51°49'N., 1°36'E.).

Sunk Deep Water Route leads about 2.5 miles W and then SSW. It passes about 0.4 mile SE of Sunk Light Vessel and 1.3 miles WNW of Trinity Lighted Buoy (51°49'N., 1°36'E.).

A pilot boarding station for the Thames and Medway is situated in the vicinity of North East Spit (51°25'N., 1°30'E.).

Vessels proceeding from this boarding station to the entrance of Fisherman's Gat should steer in a N direction for about 6 miles and pass E of NE Spit Lighted Buoy (51°28'N., 1°30'E.) and E of the Tongue Deep Water Anchorage Area, which lies centered 1.5 miles ENE of Outer Tongue Lighted Buoy (51°31'N., 1°26'E.). They should then steer in a NW direction for about 5 miles toward the seaward entrance of the fairway channel.

Vessels proceeding from this boarding station to the entrance of Princes Channel should steer NNW for about 4 miles and then W toward the channel entrance, passing S of the remains of Tongue Sand Tower (51°30'N., 1°22'E.).

Caution.—A Precautionary Area has been established in the vicinity of Sunk Light Vessel in order to minimize the risk of collision.

A Precautionary Area has been established in the vicinity of the junction of Fisherman's Gat and Black Deep. Vessels should navigate with extreme caution in this area.

Note.—For Deep-Water Routes situated E of the Outer Passage, [see the graphics in paragraph 6.1](#) and the remarks under [Approach Routes to the German Bight in paragraph 8.2](#).

Principal Channels

4.5 The Thames can be approached by any one of several passages which lead through the estuary. These passages, in general, lie between the many long and narrow shoals which run in NE to SW directions. The tidal currents generally set through these nearly straight channels and do not make navigation difficult. In the S part of the estuary, the shoals are much more complicated and broken up than those in the N part and, as a rule, they run in a direction parallel to the S shore.

From the NE, the principal route leading to the entrance of the river is through East Swin or King's Channel, Barrow Deep, Oaze Deep, or The Warp, and then to the entrance of the dredged channel at Sea Reach.

The other main route through Black Deep, Knock John Channel, and Oaze Deep should only be used by vessels which, because of their draft or other special circumstances, are unable to use Barrow Deep or Fisherman's Gat.

The passages to the W of the main routes should only be used by vessels with local knowledge. These include Middle Deep, West Swin, East Swin, and the SW continuation of East Swin or King's Channel.

From the E and SE, the most direct route is through Princes Channel and Oaze Deep. For vessels with deeper drafts, the other main route is through Fisherman's Gat, Black Deep, Knock John Channel, and Oaze Deep.

The S route passes through South Channel, Gore Channel, Horse Channel, and Four Fathoms Channel. Part of the fairway is not marked by lighted aids and should not be used at night. This route is described with the S shore, North Foreland to Whitstable.

Alexandra Channel, at the NW end of Princes Channel, and Queens Channel, at the SE end of Princes Channel, are both unmarked.

Depths—Limitations.—The following least charted depths are found in the main routes:

1. In East Swin or King's Channel through Oaze Deep—A depth of 9.5m.
2. In East Swin or King's Channel through The Warp—A depth of 6m.
3. In Black Deep and Knock John Channel through Oaze Deep—A depth of 12.3m.
4. In Fisherman's Gat, Black Deep, and Knock John Channel through Oaze Deep—A depth of 7.9m.
5. In Princes Channel through Oaze Deep—A depth of 5.3m.

Caution.—Vessels navigating in Oaze Deep, within 2 miles of the entrance to Sea Reach, and in the approach channel to the Medway, should do so with extreme caution as large deep-draft vessels, with limited maneuverability, and a high density of other crossing traffic, may be encountered. In addition, anchoring within these areas is prohibited.

Depths are corrected from the latest surveys, but subsequent changes are often frequent and rapid. The Thames Navigation Service should be contacted for the latest information.

Deep-draft vessels, in critical areas, should allow a sufficient underkeel clearance for the possibility of negative tidal surges, uncertainties of tidal predictions, and the problems associated with squat. Vessels should allow a minimum underkeel clearance of 0.9m on a flood tide and 1.4m on an ebb tide. Vessels with drafts over 10m should allow an underkeel clearance of 1.2m on a flood tide and 1.5m on an ebb tide.

Numerous wrecks and obstructions lie in the approaches and channels and may best be seen on the chart.

Signals for deep-draft vessels are in effect.

Vessels are cautioned not to anchor in the channels, except within the designated areas.

4.6 East Swin or King's Channel (51°45'N., 1°25'E.) lies between Gunfleet Sand, on its NW side, and Sunk Sand, on its SE side. It is about 3 miles wide at its narrowest point and has a least depth of 12.6m. It is the principal channel for vessels approaching from the NE and leads into Barrow Deep, a main channel, and the minor channels of Middle Deep, East Swin, and Whitaker. Tidal currents run, with rates up to 2.5 knots, in the direction of this channel. This passage, along with Barrow Deep, is marked by lighted buoys and presents no navigational difficulties by day or at night.

Sunk Sand (51°40'N., 1°22'E.) extends about 16 miles SW from a position 10 miles SE of The Naze. Its SW extremity joins Knock John and its NE extremity is known as Sunk Head. Several patches on this bank dry up to 2.1m and, from the N,

are known as Great Sunk, Little Sunk, Middle Sunk, and South West Sunk. In addition to the lighted buoys marking this bank, several beacons stand on it and may best be seen on the chart.

The submerged remains of Sunk Head Tower lie about 1.3 miles NE of Sunk Head and are marked by a lighted buoy.

Gunfleet Sand (51°45'N., 1°15'E.) is the NE part of a shoal which extends SW from a position 6 miles ESE of The Naze. This shoal is about 14 miles long and mostly dries. It is steep-to on its SE and NW sides.

Gunfleet Old Lighthouse (51°46'N., 1°20'E.), a disused structure, 13m high, stands on the SE side of Gunfleet Sand and is conspicuous. The ruins of a beacon, awash at HW, stand on the shoal, 1.2 miles NNE of the above lighthouse.

Barrow Deep (51°38'N., 1°14'E.), the SW continuation of East Swin or King's Channel, lies between East Barrow and West Barrow, on its NW side, and the SW end of Sunk Sand, Knock John, and North Knob, on its SE side. At the SW end, it is separated from Oaze Deep by the Mouse and Oaze shoals. The fairway is about 17 miles long and marked by lighted buoys. There are depths greater than 12m in the channel, except in the vicinity of Knob Gat.

Barrow No. 3 Lighted Buoy (51°42'N., 1°20'E.), equipped with a racon, is moored close NE of the N end of N Middle Shoal and marks the N entrance to the channel.

A channel for deep-draft vessels leads from Barrow Deep through Knob Gat (51°32'N., 1°05'E.) into Oaze Deep. It is marked by lighted buoys and passes between Mouse and North Knob shoals.

East Barrow (51°38'N., 1°11'E.), marked by a beacon, dries over its greater part.

West Barrow (51°35'N., 1°08'E.) dries up to 2.6m. This shoal is separated from East Barrow by Barrow Swatchway, which has a least depth of 5.5m in the fairway.

Knock John (51°34'N., 1°09'E.), which dries, and **North Knob** (51°33'N., 1°08'E.), with a least depth of 0.3m, lie on the SE side of Barrow Deep and are a SW continuation of Sunk Sand. Both of these shoals lie on a ridge which extends SW from Sunk Sand and has depths of less than 5.5m.

Knock John Tower (51°34'N., 1°10'E.), a twin concrete fort structure, 18m high, stands off the SE side of Knock John shoal and is very conspicuous.

4.7 Oaze Deep (51°30'N., 1°02'E.) lies between Mouse and Oaze shoals, on its N side, and Red Sand and The Cant, on its S side. This channel, which has general depths of 13 to 21m in the fairway, may be entered from Barrow Deep, Knock John Channel, or Knob Channel.

Mouse (51°32'N., 1°04'E.), a narrow detached shoal, lies 2 miles SE of West Barrow and 3 miles WSW of North Knob. It has a least depth of 4m and is marked on the SE side by a lighted buoy.

Oaze (51°30'N., 1°00'E.), with a least depth of 3m, is a SW extension of Mouse and is marked on the SE side by a lighted buoy.

Red Sand (51°29'N., 1°01'E.), lying on the S side of Oaze Deep, is a narrow tongue with drying areas at its center.

Red Sand Tower (51°29'N., 1°00'E.), consisting of a group of seven concrete towers, is situated about 1 mile NW of Red Sand and is conspicuous.

The Cant (51°28'N., 0°55'E.), with depths of less than 5.5m, is an extensive shoal which lies off the coast and forms the S limit of the main channel. It is marked by a beacon and numerous pieces of wreckage, some of which dry, that lie on this shoal.

The Warp (51°30'N., 0°55'E.) leads from the SW end of Barrow Deep to the entrance into Yantlet Dredged Channel at Sea Reach. Oaze Deep and West Swin also lead into this channel. It is about 1.2 to 2 miles wide and has irregular depths.

Caution.—A Restricted Area, the limits of which are shown on the chart, is situated within Oaze Deep. Deep-draft vessels, with limited maneuverability, and crossing traffic may be encountered within this area.

A Restricted Zone, the limits of which are shown on the chart, is situated at the SW end of Oaze shoal. Vessels, other than fishing or pleasure craft, are to avoid this zone.

A Restricted Area, the limits of which are shown on the chart, is situated at the W end of The Warp. Deep-draft vessels, with limited maneuverability, and crossing traffic may be encountered within this area.

4.8 Black Deep (51°40'N., 1°25'E.) leads between Sunk Sand, on its NW side, and Long Sand, on its SE side. It is about 19 miles long and 1.5 miles wide, but the fairway narrows to almost 0.5 mile where it leads into Knock John Channel. There are generally least depths in this channel of 12.2 to 13.1m, but fluctuations on the sand and gravel ridges sometimes result in less depths than charted.

This channel should only be used by vessels which, because of their draft or other special circumstances, cannot use Barrow Deep or Fisherman's Gat.

Knock John Channel (51°33'N., 1°09'E.), which leads from Black Deep into Oaze Deep, lies between Knock John and North Knob, on its NW side, and Tizard Bank and Knob Shoal, on its SE side. The fairway is 0.2 mile wide and has a least depth of 12.3m.

This channel should only be used by deep-draft vessels which, because of their draft or other special circumstances, are unable to use Barrow Deep.

Knock John and North Knob were previously described with Barrow Deep in paragraph 4.6.

Tizard Bank (51°33'N., 1°13'E. and **Knob Shoal** (51°32'N., 1°10'E.) lie on the SE side of Knock John Channel and also form the NW side of Knob Channel. Tizard Bank, with a least depth of 0.8m, lies on a spit, with depths of 6.2 to 9.2m, which extends WSW from the W end of Long Sand. Knob Shoal is a narrow ridge which extends WSW for about 5 miles from Tizard Bank and has a least depth of 0.7m.

Middle Deep (51°40'N., 1°12'E.) leads between East Barrow, on its SE side, and The Middle, on its NW side. It is free from dangers except for a shoal depth of 3.9m lying at the NE end, 2 miles WSW of Barrow No. 3 Lighted Buoy. The W end of this channel leads S through a passage into the NE end of West Swin. This passage is marked by lighted buoys, but is obstructed by several wrecks swept to a least depth of 3.4m. Another shallow passage leads from the W end of Middle Deep between Maplin Spit and Barrow into South West Reach.

Middle Deep, which is not marked by buoys, should only be used by vessels with local knowledge.

The Middle (51°40'N., 1°10'E.), with a least depth of 0.4m, is a steep-to and narrow shoal which separates Middle Deep from East Swin. NE Middle is an extension of The Middle and has a least depth of 1.6m. North Hook is the name given to that part of this shoal which lies between The Middle and NE Middle.

Maplin Spit (51°36'N., 1°06'E.) is located on the S side of the SW end of Middle Deep. Its NE part dries and its SW part has depths of less than 1.8m.

4.9 West Swin (51°33'N., 1°01'E.), the SW continuation of Middle Deep, leads between Maplin Sands, on its NW side, and West Barrow, on its SE side. South West Reach is the NE part of West Swin. Shoe Hole, a small deep, lies between South West Reach and West Swin. The fairway through West Swin, which is marked by lighted buoys, has depths of 10 to 20m and leads into The Warp.

Barrow Swathway, with a least depth of 6.4m, leads between Barrow and West Barrow. This channel, which leads from Barrow Deep into South West Reach, should only be used by vessels with local knowledge.

East Swin (51°40'N., 1°09'E.), the SW continuation of East Swin or King's Channel, leads between The Middle, on its SE side, and Whitaker Spit and Foulness Sands, on its NW side. A swathway at the SE end of this channel leads into Middle Deep. There are least depths of 5.2m in East Swin and 4m in the swathway. However, numerous shallow wrecks and obstructions lie in the vicinity and make this passage dangerous to all vessels except small craft with local knowledge.

[Whitaker Spit and Foulness Sands are described with Whitaker Channel and the approach to the River Crouch in paragraph 4.24.](#)

Knock Deep (51°38'N., 1°32'E.), which forms an approach to Fisherman's Gat from the NE, leads between Long Sand and Kentish Knock. It is 10 miles long and 2.2 miles wide, with depths of 10 to 20m in the fairway. This channel may be used, but is not recommended as it is unmarked.

North Edinburgh Channel (51°33'N., 1°19'E.) leads WNW and W between Long Sand and Shingles Patch into Knob Channel. This channel is unmarked and is no longer used by commercial shipping.

South Edinburgh Channel (51°32'N., 1°15'E.) leads NW between Shingles Patch, on the E side, and North Shingles, on the W side. This channel is unmarked and is no longer used by commercial shipping.

Shingles Patch (51°32'N., 1°18'E.), which forms the SW side of the North Edinburgh Channel, dries in places up to 0.8m.

Shingles (51°31'N., 1°13'E.), an extensive drying shoal, lies W of the South Edinburgh Channel. It consists of North Shingles and West Shingles, which lie on the S side of Knob Channel, and South Shingles, which lies on the N side of Princes Channel and Alexandra Channel.

Fisherman's Gat (51°35'N., 1°22'E.) leads NW for 4 miles across the S end of Long Sand and into Black Deep. This channel forms the main approach route from the E and SE.

The fairway, which is marked by lighted buoys, is about 0.3 mile wide and has a least charted depth of 7.9m (2002).

Outer Fisherman Lighted Buoy (51°34'N., 1°25'E) is moored 3.2 miles NNW of Outer Tongue Lighted Buoy and marks the seaward entrance of the channel.

Outer Tongue Lighted Buoy (51°31'N., 1°26'E), equipped with a racon, is moored about 8.2 miles N of North Foreland and marks the S approach to Fisherman's Gat.

Foulger's Gat (51°38'N., 1°26'E.), a narrow channel, leads N for about 3 miles across Long Sand and connects the S end of Knock Deep to Black Deep. This channel has a least depth of 4.6m and is only used by small craft. Its N and S entrances are marked by lighted buoys.

4.10 Knob Channel (51°31'N., 1°10'E.), which leads from the Edinburgh Channels into Oaze Deep, lies between Tizard Bank and Knob Shoal, on its NW side, and Shingles and Shivering Sand, on its SE side. The fairway, which is 0.5 to 0.7 mile wide, is marked by lighted buoys.

Shivering Sands (51°30'N., 1°04'E.), with depths of less than 10m, is the NE extension of Red Sand.

Shivering Sand Tower (51°30'N., 1°05'E.) consists of a group of seven conspicuous concrete towers which are 17m high and stand about 50m apart. Lighted buoys are moored close N and S of the group; a tide pole is situated at the N tower.

Princes Channel (51°29'N., 1°15'E.) lies between Shingles and Girdler, on the N side, and Tongue, Ridge, Pan Sand, and Kentish Flats, on the S side. It is the most direct route to the river for vessels approaching from the E and SE. Vessels which, because of their draft, cannot use this channel may use North Edinburgh Channel. The fairway, about 10 miles long, is marked by lighted buoys and has depths of 7 to 24m in its E part. A least depth of 5.3m lies in its W part. From the W end of this channel, vessels can pass either N into Knob Channel or W into Oaze Deep.

Tongue Sand Tower (51°30'N., 1°22'E), in ruins, is situated on the N side of the E approach to Queens Channel and Princess Channel, 3 miles WSW of Outer Tongue Lighted Buoy. This structure is marked by lighted buoys moored close N and S of it.

North East Spit (51°27'N., 1°28'E), located in the SE approach to Princes Channel, is a curved ridge, which extends NE and N from the E end of Margate Sand. This ridge, which has depths of less than 10m, is reported to be moving slowly seaward at a rate of 20m each year.

NE Spit Lighted Buoy (51°28'N., 1°30'E), marking the NE extremity of North East Spit, is moored about 5.7 miles NNE of North Foreland. A pilot boarding station is situated about 3 miles S of this lighted buoy.

Alexandra Channel (51°30'N., 1°10'E.), which is unmarked, leads NNW from the W part of Princes Channel into Knob Channel. It passes over a shallow bar between Shingles and Girdler.

Girdler, which dries, lies about 2.5 miles E of Shivering Sand Tower.

Tongue and Ridge, located on the S side of Princes Channel, both dry. They are two parts of the same shoal which extends for about 4.5 miles.

Pan Sand (51°28'N., 1°10'E.), located W of Tongue and Ridge, dries 1.5m and is marked by a beacon. This shoal, along with Tongue and Ridge, also forms the N side of Queens Channel.

4.11 Queens Channel (51°28'N., 1°18'E.) is separated from Princes Channel by Tongue, Ridge, and Pan Sand shoals. It is not marked and is more in the nature of a bight within a group of shoals than a channel, as the W end terminates in Kentish Flats through which there are only shallow passages. Margate Sand, Wedge, and Woolpack lie on the S side of the channel. The fairway at the E entrance is about 1.5 miles wide and has depths of 10m which, though irregular, decrease towards Pan Sand Hole, 10 miles W.

A narrow and unmarked channel, with a least depth of 1.9m, leads NW from Queens Channel into Princes Channel between Ridge and Pan Sand. A passage, with a least depth of 2.7m, connects Pan Sand Hole, at the edge of Kentish Flats, to Four Fathoms Channel; it passes between East Middle Sand and East Spaniard. Another passage, with a least depth of 3m, connects Pan Sand Hole to the W end of Princes Channel; it passes SW of South Girdler Beacon (51°28'N., 1°07'E.), on Kentish Flats, before leading NNW.

Margate Sand (51°26'N., 1°20'E.) extends WSW for about 10 miles from a position 4.5 miles N of North Foreland and dries in places, up to 2.7m. It is marked by lighted buoys moored at the E, SE, and S sides. Last, a sand bank which dries, lies close to the SW end of Margate Sand. Woolpack, with a least depth of 0.3m, is located about 1.5 miles W of Last.

Good anchorage is available, in depths of 5 to 8m, in Pan Sand Hole. Anchorage, sheltered from S winds, can also be obtained on the N side of Margate Sand.

For channels leading S of Margate Sand, see North Foreland to the Isle of Sheppey (paragraph 4.26).

Orford Ness to Harwich

4.12 Orford Ness (52°05'N., 1°35'E.), the N entrance point of the Thames Estuary, is low and rounded. A main light is shown from a conspicuous tower, 30m high, standing on the point. A racon is situated at the light.

The conspicuous remains of a castle stand on a small mound, 1.8 miles WNW of the light.

Several conspicuous radio masts stand in groups from 1.2 to 1.8 miles N of the light.

The off-lying banks and shoals located S and SE of Orford Ness are described with the approaches to Harwich in paragraph 4.13.

Orford Haven (52°03'N., 1°28'E.), located 5 miles SW of Orford Ness, is formed at the mouth of the River Ore. This outlet at the SW end of Hollesley Bay lies within the SW extremity of a spit which extends 8.5 miles SW from Aldeburgh. This spit is very low in places and sometimes floods at HW. The shore on either side of the river entrance consists of shingle beach. Shingle Street, a small village, stands on the SW side of this entrance and is prominent. The River Ore runs inside the spit and parallel to it for 4.5 miles to Orford. Above Orford, the river becomes the River Alde.

Orford Haven is mainly used by small craft and yachts. The entrance, marked by an approach buoy moored 0.4 mile SSE of it, is dangerous because of shifting shingle banks and strong tidal currents, which can attain a velocity of over 6 knots at times. Depths over the bar change rapidly and frequently; a least depth of 0.2m was reported (1991). In the river there are



Orford Ness Light

general depths of 2.1 to 11m. Pilotage is unavailable but, with advance notice, persons with local knowledge can be obtained from Orford.

The prominent tower of a church stands at Hollesley, 1.3 miles WNW of the entrance; a conspicuous martello tower stands close S of the village of Shingle Street.

Bawdsey Cliff (52°00'N., 1°25'E.), centered 2.5 miles SW of Orford Haven, is 12 to 15m high, reddish in color, and about 1 mile long.

A very conspicuous lattice radio tower, 113m high, stands at the SW end of the cliff. A prominent martello tower stands close NE of the N end of the cliff.

Woodbridge Haven (51°59'N., 1°24'E.), formed by the outlet of the River Deben, is located close SW of the S end of Bawdsey Cliff. The river flows into the sea through shifting banks of shingle and is navigable as far as Woodbridge, 8.5 miles above its entrance. The town stands on the W bank of the river, but is not visible from seaward. Two prominent martello towers stand on the W side of the entrance. A ferry crosses the river close inside the mouth. The haven is only used by yachts, but vessels, with drafts up to 3.5m at springs and 2.7m at neaps, can reach the town.

An approach buoy is moored 0.4 mile SE of the entrance bar. As the entrance channel over the bar constantly varies in depth and position, the buoys and range beacons, which mark the fairway, are moved as necessary. Local knowledge is required; the harbormaster at the ferry terminal can be contacted on VHF and will act as a pilot.

Landguard Point (51°56'N., 1°19'E.), the E entrance point of Harwich Harbor, is located 3.8 miles SW of the entrance to Woodbridge Haven.

Approaches to Harwich

4.13 Rough Channel (51°56'N., 1°25'E.) is centered about 4.5 miles E of Landguard Point. Bawdsey Bank, Cutler, Felixstowe Ledge, Cork Knolls, Wadgate Ledge, Platters, and Andrews Spit lie on its N side; Rough Shoals, Cork Ledge,

Cork Sand, and Ridge lie on its S side. The dredged entrance fairways leading to the port lie within this channel.

Threshold (51°54'N., 1°32'E.), a detached shoal ridge of broken ground, has a least depth of 6.8m. It lies 8 miles ESE of Landguard Point and about 1.5 miles WNW of the S end of Shipwash. Several other patches, with depths of less than 11m, lie within 0.5 mile of the N end of this ridge.

A wreck, with a swept depth of 9.6m, lies off the E side of this shoal ridge. A wreck, with a swept depth of 3.5m, lies about 0.3 mile SE of the SE end of this ridge and is marked by lighted buoys moored E and W of it.

Rough Shoals (51°54'N., 1°28'E.), with general depths of less than 11m and a least depth of 4m, lie from 4.5 to 7.5 miles ESE of Landguard Point. They are scattered over an irregular area, about 3 miles in extent; the SW limit of these shoals is known as the Southwest Tail of Rough. Upper Rough and Lower Rough, near the middle of the area, both have depths of less than 5.5m.

Roughs Tower (51°54'N., 1°29'E.), a conspicuous twin concrete structure, stands 6.5 miles ESE of Landguard Point and is marked by lighted buoys moored close SE and NW of it.

The NE part of Rough Shoals is marked by a lighted buoy moored 2.5 miles NE of the tower.

Cork Knolls (51°56'N., 1°26'E.), with a least depth of 6.4m, lie about 4 miles E of Landguard Point.

Cork Sand (51°54'N., 1°24'E.), marked by a lighted beacon, is located with its N extremity lying about 4 miles ESE of Landguard Point. It extends SSW for about 4 miles and has patches which dry up to 1.3m. Cork Ledge, a rocky patch, lies 1 mile W of the N extremity of Cork Sand and has a least depth of 4.3m.

Cork Hole (51°54'N., 1°25'E.), lying between Cork Sand and Rough Shoals, has depths of 11 to 19m.

Caution.—Experimental lighted buoys, which have no navigational significance, may sometimes be moored at the S end of Cork Hole.

4.14 Felixstowe Ledge (51°57'N., 1°23'E.), with depths of less than 5m, extends about 1.3 miles SE from a point on the coast, 2.5 miles NE of Landguard Point.

Wadgate Ledge (51°56'N., 1°22'E.), a patch of uneven ground formed by sand and stones, is located about 1.6 miles ENE of Landguard Point. A wreck, with a swept depth of 0.5m, lies on this shallow ledge.

Platters (51°56'N., 1°21'E.) is a tongue, with a least depth of 1.6m, which extends about 1.5 miles E from Landguard Point. Andrews Spit, part of the same shoal, extends 0.5 mile E and ESE of Landguard Point and is marked by a beacon.

Shipway (51°58'N., 1°35'E.), a main approach channel from the N, lies between Shipwash and Bawdsey Bank and is marked by lighted buoys. It is 10 miles long, from 1.5 to 2.5 miles wide, and has depths of 11.2 to 21m. Detached sand wave patches, which extend from the N end of Bawdsey Bank, lie in the N part of the entrance. The tidal currents follow the direction of this channel and at springs set SW up to 1.8 knots and NE up to 2.2 knots.

Bawdsey Bank (52°00'N., 1°33'E.) extends about 6.5 miles SW from a position 3.2 miles SSE of Orford Ness. Its N end is known as Bawd Head. A ridge, near the middle of the bank, has a least depth of 1.4m and the sea breaks heavily over it

during E swells and gales. The S part of this bank has detached patches with depths of 4.3 to 5.5m. Kettle Bottom, with a least depth of 6.8m, is a narrow tongue which extends about 2 miles N from the SW end of Bawdsey Bank.

Sledway (52°00'N., 1°30'E.) lies between Bawdsey Bank and Kettle Bottom, on its E side, and Whiting Bank and Cutler, on its W side. This channel is about 1.5 miles wide and has depths of 6.1 to 17m. The tidal currents follow the direction of this channel, and at springs set SW up to 1.7 knots and NE up to 2 knots.

Whiting Bank (52°03'N., 1°33'E.) extends about 4.5 miles SSW from a position 1.3 miles SSW of Orford Ness and is marked by buoys. A least depth of 0.7m lies on a narrow ridge near the center of this shoal bank. Flagstone is the name given to the area lying close W of the S part of this bank. There are overfalls, during the ebb currents, in an area lying between the N end of this bank and Orford Ness.

Cutler (51°59'N., 1°27'E.), with a least depth of 1.5m, is a rocky shoal which lies about 2.3 miles E of the entrance to Woodbridge Haven and is marked by a buoy.

Hollesley Bay Channel (52°02'N., 1°30'E.) leads between Whiting Bank and the coast, from abreast Orford Ness to Orford Haven. It is 5 miles long, about 1 mile wide, and has depths of 6 to 12m. Tidal currents in this channel attain rates, in each direction, of up to 2 knots at springs.

Medusa Channel (51°53'N., 1°19'E.), with a least depth of 2.4m, is only used by small craft approaching from the S. Stone Banks and Ridge are located 3 miles S and 1 mile SSE, respectively, of Landguard Point and lie on the E side of the channel. Halliday Rock Flats and Sunken Pye, located 1.4 miles SW of Landguard Point, lie on its W side. The channel passes over Naze Ledge, which is marked by a buoy, and should only be used by craft with local knowledge.

4.15 Directions.—The principal approach to Harwich is via the Harwich Deep-Water Channel, which is entered close W of South Shipwash Lighted Buoy (51°52.7'N., 1°34.2'E.). This deep-water channel extends 4.5 miles N, NNW, and NW to a position close S of Harwich Approach (HA) Lighted Buoy (formerly Shipway Lighted Buoy) (51°56.7'N., 1°30.7'E.). It then leads 7.5 miles W to a position S of Landguard Point.

A harbor entrance channel rounds the point and leads N from the inner end of the deep-water channel toward the berths.

North Channel, an inbound traffic lane, lies N of the deep-water channel between Harwich Channel No. 1 Lighted Buoy (51°56.1'N., 1°27.2'E.) and Platters Lighted Buoy (51°55.6'N., 1°20.9'E.). South Channel, an outbound traffic lane, lies S of the deep-water channel between Pitching Ground Lighted Buoy, moored 0.3 mile S of Platters Lighted Buoy, and Cork Sand Lighted Buoy (51°55.4'N., 1°25.9'E.).

After embarking the pilot E of Sunk Light Vessel, deep-draft vessels should follow the recommended route, which may best be seen on the chart, and proceed W and NW into the entrance of the Harwich Deep-Water Channel. Other vessels approaching from the S or E should embark the pilot ENE of Sunk Light Vessel. They may then proceed W and NW through the outer part of the deep-water channel. Those vessels, with suitable draft, may pass between Roughs Tower (51°54'N., 1°29'E.) and Threshold Shoals, 2.4 miles E. They may then

pass E of Cross Lighted Buoy (51°56.2'N., 1°30.6'E.) and steer in a W direction toward the outer entrance of North Channel.

Vessels approaching from the N, NE, and E should pass through either Shipway or Sledway and then shape their course toward the pilot boarding station located about 2 miles ENE of Harwich Approach (HA) Lighted Buoy (formerly Shipway Lighted Buoy) (51°56.7'N., 1°30.7'E.).

For restrictions, see [Pilotage for Harwich \(Port of Felixstowe\)](#) in paragraph 4.16.

Yachts and pleasure craft are recommended to use a route, which is indicated on the chart, lying close S of the outbound traffic lane. They are advised, in the interest of safety, to avoid the deep-water channel and the traffic lanes.

Entry into the Harwich Deep-Water Channel is restricted from the E between South Shipwash Lighted Buoy (51°52.7'N., 1°34.2'E.) and Walker Lighted Buoy (formerly Shiphead Lighted Buoy), moored about 1 mile N. It is restricted from the S between Cross Lighted Buoy (51°56.2'N., 1°30.6'E.) and Harwich Channel No. 2 Lighted Buoy, moored about 2 miles W.

Deep-Water Routes, which may best be seen on the chart, lead SW from the vicinity of Sunk Light Vessel into the Thames approach channels and NW into the Harwich Deep-Water Channel.

Pilots for the Port of London (River Thames) are also provided by this station. They embark at the pilot boarding places in the vicinity of Sunk Light Vessel.

See [Regulations and Pilotage for Harwich \(Port of Felixstowe\)](#) in paragraph 4.16.

Anchorage.—Vessels may anchor, in depths of 6 to 7.7m, in Cork Anchorage Area, which lies on the N side of the inbound traffic lane. They may also anchor, in depths of 5.9 to 9.6m, in Platters Anchorage Area, which lies S of the W end of the outbound traffic lane.

Deep-draft vessels may anchor, in depths of 11 to 15m, in Bawdsey Anchorage Area, which lies about 1 mile NNE of Harwich Approach (HA) Lighted Buoy (formerly Shipway Lighted Buoy). They may also anchor, in depths of 15 to 25m, in Sunk Anchorage Area, which lies 4 miles NE of Sunk Light Vessel.

The limits of the above anchorage areas may best be seen on the chart.

Caution.—A Precautionary Area, which may best be seen on the chart, has been established in the vicinity of Sunk Light Vessel in order to minimize the risk of collision.

Harwich (Port of Felixstowe) (51°57'N., 1°17'E.)

[World Port Index No. 31530](#)

4.16 Harwich, a city of great antiquity, stands on the N part of a peninsula which is formed between the coast and the SW side of the entrance to the River Stour. The city and Parkeston, a suburb, extend W from this peninsula along the S side of the river. The town of Felixstowe extends along the NE side of the entrance and the River Orwell flows into the N side of the harbor.

Harwich Harbour is the only land-locked harbor between the River Humber and the River Thames which affords complete shelter from all winds. In addition to The Port of Felixstowe,

situated on its NE side, the harbor provides access to Mistley and Manningtree, on the River Stour, and Ipswich, on the River Orwell.

Tides—Currents.—Tides rise about 4m at springs and 3.4m at neaps.

Within the harbor, the tidal currents generally run in near the direction of the fairway channel. The currents to and from the River Stour and the River Orwell separate or meet NE of Harwich. In mid-channel between Harwich and Shotley Point, the flood current attains a velocity of 1 knot at springs and the ebb current a velocity of 2.2 knots. In the fairway W of Felixstowe Dock, the ebb current sets SSE with a velocity of 1.2 knots at springs; the flood current sets NNW with a velocity of 1 knot.

Within the harbor, the height of tide may be affected by meteorological conditions. Winds between the SE and SW, or a high barometer, cause a decrease in height and winds between NW and NE, or a low barometer, cause an increase. The increase or decrease may, under exceptional conditions, be up to 0.6 to 0.9m above or below the predicted height.

Depths—Limitations.—The inbound and outbound traffic lanes have depths of about 7m.

It is reported (2000) that the Harwich Deep-Water Channel has been dredged to a depth of 14.5m as far as the main container berths and the entrance to the River Orwell. There are lesser depths in the approaches to the other berths.

A channel, dredged to a depth of 8m, leads W from the harbor channel up the River Stour to Parkeston Quay, situated about 0.5 mile above the entrance.

Generally, vessels up to 13.1m draft can enter the harbor at all stages of the tide; vessels up to 15m draft can enter at HW.

Harwich.—Parkeston Quay is 1,204m long. It is comprised of five ro-ro berths, 100 to 180m long, and a container berth, 230m long, with depths of 6 to 8m alongside. A coastal tanker berth, 150m long with a depth of 7m alongside, is situated off the W end of the quay.

Generally, vessels up to 57,000 grt and 152m in length can be accommodated alongside; special arrangements for longer vessels can be made. Vessels with drafts up to 6m can berth alongside without being restricted by the height of tide and vessels with drafts up to 8m can be accommodated at HW. There are extensive facilities for automobile ferries and passenger vessels.

The Navyard Wharf, situated at the river entrance, has five berths with facilities for ro-ro vessels. These are 42 to 160m long and have depths of 4.5 to 8.6m alongside.

It is reported that a new tanker berth, capable of accommodating vessels up to 10,000 dwt, is to be constructed. In addition, the container berth is to be extended to the E with reclamation work being carried out in Bath Side Bay.

Port of Felixstowe.—The port comprises Felixstowe Dock and several river berths situated at the NE side of the harbor.

Felixstowe Dock, which is entered through a passage, 44.2m wide, is a tidal basin with a dredged depth of 6.7m. Within the basin, East Quay is 132m long, North Quay is 191m long, and South Quay is 186m long. Vessels up to 137m in length and 6.4m draft can be accommodated in the dock.

An oil terminal jetty extends from the shore close N of the entrance to the dock. The berth at its head can accommodate tankers up to 25,000 dwt, 180m in length, and 9.1m draft.



Harwich (Port of Felixstowe)

Two ro-ro berths are situated close S of the entrance to Felixstowe Dock and two more are situated close N of the oil terminal jetty. These berths have dredged depths of 7.3 to 9.8m alongside and can accommodate vessels up to 213m in length.

Languard Container Terminal, situated S of Felixstowe Dock, is 439m long. It has dredged depths of 9.8 to 11.9m alongside and can handle vessels up to 11.4m draft.

Trinity Container Terminal, situated N of the oil terminal, is 2,334m long. It provides seven berths, with dredged depths of 11.6 to 15m alongside. Vessels up to 347m in length and 15m draft can be accommodated at HW.

Aspect.—The Harwich Deep-Water Channel is marked by lighted buoys. Harwich Channel No. 1 Lighted Buoy (51°56.1'N., 1°27.2'E.) is equipped with a racon.

The harbor entrance lies between Landguard Point and Blackman's Head, 1 mile WNW. Vessels enter through a fairway which is marked by lighted buoys and leads W and N.

From Landguard Point, a low shingle beach extends for about 2.7 miles NE and is fringed by groins.

Conspicuous marks on the N side of the entrance include the spire of a church standing 2 miles NNE of Landguard Point, a radar scanner situated 0.4 mile E of the spire, a water tower standing 1.3 miles NNW of the spire, and a gas storage tank standing 1.3 miles N of Languard Point. A flare, easily distinguishable at night, is occasionally situated at a tall chimney which stands close NW of the gas storage tank. In addition, the gantries and cranes at the Port of Felixstowe are clearly visible from a considerable distance.

The coast extending SW of Blackman's Head is cliffy for about 0.5 mile and then it becomes low and embanked as far as the entrance to Hamford Water, 2.5 miles SSW. The shore is fronted by a sand flat and backed by gently undulating country.

Conspicuous landmarks on the SW side of the harbor entrance include a water tower standing 1.1 miles WSW of Blackman's Head and two disused light structures standing near the shore, 0.5 mile E of the water tower. Prominent landmarks include the spire of a church standing 0.5 mile N of

Blackman's Head and the tower of a church, much obscured by trees, standing on the skyline, 1.3 miles WSW of Blackman's Head. In addition, the cranes situated at Parkeston Quay are visible from a considerable distance.

Shotley Point, on the N side of the harbor, is the SE extremity of a projection which separates the River Stour from the River Orwell. An extensive marina, consisting of a basin entered through a lock, is situated at the point. Conspicuous landmarks in the vicinity include a water tower, 40m high, standing on the W side of the marina; a signal tower, 40m high and surmounted by a flagstaff; a radar scanner, standing 0.3 mile SW of the marina; and the mast standing at the former Shotley Naval Base, close N of the signal tower. Prominent from several directions is a white water tower which stands about 1.5 miles WNW of Shotley Point.

Pilotage.—Pilotage is provided by Haven Pilotage Service and is compulsory for all vessels over 50m in length, except HM ships.

Inbound vessels should send an ETA at the pilot boarding station at least 24 hours in advance or on leaving the last port of call, if later. The ETA message should include the vessel's name, call sign, grt, maximum draft, and destination.

Vessels should then confirm their ETA 3 hours and 1 hour in advance or as soon as practicable when within VHF range.

Outbound vessels should give an ETD at least 2 hours in advance, with a confirmation 30 minutes prior to departure (ETD will not be accepted more than 3 hours in advance).

The Haven Pilotage Service operates two pilot stations:

1. Sunk Pilot Station provides pilotage for Harwich, Felixstowe, Ipswich, and Mistley (Haven Ports). It also provides pilotage for the Port of London, the River Thames, and the River Medway.

Pilots board in position 51°51.4'N, 1°40.5'E (3.5 miles E of Sunk Light Vessel).

Communication on the approach and at this pilot station will be conducted by Sunk VTS on VHF channel 14 (see Regulations).

Vessels giving the 1-hour confirmation of ETA at this boarding station should call on VHF channel 9.

2. Haven Pilot Station provides pilotage for Harwich, Felixstowe, Ipswich, and Mistley.

Pilots board vessels about 2 miles ENE of Harwich Approach (HA) Lighted Buoy (formerly Shipway Lighted Buoy) (51°56.7'N., 1°30.7'E.).

This station should be used only by vessels of less than 180m in length and less than 8m draft.

Communication on the approach and at this pilot station will be conducted by Haven VTS on VHF channel 71 (see Regulations).

Vessels giving the 1-hour confirmation of ETA at this boarding station should call on VHF channel 9.

Haven Pilotage Service may be contacted by e-mail, as follows:

sunk.pilot@hha.co.uk

Pilots for the the River Colne and the River Crouch embark vessels about 2.5 miles WSW of Sunk Light Vessel.

See [Approaches to Harwich, Directions \(paragraph 4.13\)](#) for further information.

Regulations.—Sunk Vessel Traffic Service (VTS) system has been established in the vicinity of Sunk Light Vessel and covers an area bounded by the following positions:

- a. 51°52.5'N, 1°32.3'E.
- b. 51°52.5'N, 1°33.2'E.
- c. 51°52.7'N, 1°34.1'E.
- d. 51°53.0'N, 1°38.9'E.
- e. 51°53.0'N, 1°42.0'E.
- f. 51°50.0'N, 1°42.0'E.
- g. 51°50.0'N, 1°39.5'E.
- h. 51°47.0'N, 1°34.9'E.
- i. 51°48.0'N, 1°32.4'E.
- j. 51°50.0'N, 1°33.9'E.
- k. 51°50.0'N, 1°32.3'E.

All vessels must report to Sunk VTS on VHF channel 14 when passing the following positions (Reporting Points):

- a. 51°57.0'N, 1°39.4'E. (E Shipwash—N approach).
- b. 51°50.7'N, 1°52.2'E. (S Inner Gabbard—E approach).
- c. 51°47.5'N, 1°40.5'E. (Long Sand Head—S approach).
- d. 51°53.8'N, 1°33.6'E. (Walker, formerly Shiphead Lighted Buoy—transfer to/from Harwich VTS).
- e. 51°46.7'N, 1°28.2'E. (Sunk Head Tower, Barrow Deep—transfer to/from Port Control London VTS).
- f. 51°50.0'N, 1°42.0'E. (Sunk Head Tower, Black Deep—transfer to/from Port Control London VTS).
- g. 51°49.0'N, 1°23.0'E. (Wallet No.2—W approach).

All vessels must maintain a continuous listening watch on VHF channel 14 until finally clear of the VTS area or when transferring to a neighboring VTS system.

All vessels at anchor within the designated anchorages in the vicinity of Sunk Light Vessel must maintain a continuous listening watch on VHF channel 14.

Inbound vessels for the Port of London will be instructed by Sunk VTS to contact Port Control London for routeing information when passing Sunk Light Vessel or Long Sand Head Lighted Buoy (51°48'N., 1°40'E.).

All vessels engaged in pilot embarkation or disembarkation operations must maintain a continuous listening watch on VHF channel 14.

Vessels may use VHF channel 6 for dedicated communication with the pilot launch during the transfer of pilots only. All other communication with pilot launches must be carried out on VHF channel 14.

All vessels should navigate with extreme caution when entering the Precautionary Area because vessels embarking and disembarking pilots may be encountered, some of which may be constrained by their draft.

Sunk VTS may be contacted by e-mail, as follows:

sunk.vts@hha.co.uk

Harwich Vessel Traffic Service (VTS) system has been established in the approaches to Harwich and provides radar surveillance and marine information. The seaward limit of the VTS area covers an area bounded by the arc of a circle, with a radius of 4 statute miles, centered on position 51°55.96'N, 1°18.84'E, with an E extension defined by a line joining the following positions:

- a. 51°57.4'N, 1°23.9'E.
- b. 51°59.0'N, 1°37.1'E.
- c. 51°53.8'N, 1°33.9'E.
- d. 51°52.6'N, 1°33.9'E.
- e. 51°52.6'N, 1°30.8'E.
- f. 51°54.3'N, 1°30.8'E.
- g. 51°55.3'N, 1°24.3'E.

Participation in this VTS system is mandatory for all vessels over 50 grt and all vessels certified to carry 12 or more passengers.

Navigational information broadcasts are made by Harwich VTS on VHF channel 11 at 0415 and 1615. During periods of major operations, broadcasts are also made at 1015 and 2215.

In the event of a major incident, details will be broadcast by Harwich VTS using the code word HARWICHCAP. This code words signifies that Harwich has initiated a combined accident procedure. All vessels should maintain their present listening watch, minimize all radio broadcasts, and be prepared to receive specific traffic regulation instructions.

Harwich VTS may be contacted by e-mail, as follows:

harwich.vts@hha.co.uk

All inbound vessels should send their ETA at the pilot station to the Harwich VTS Operations Center at least 24 hours in advance or on leaving the last port of call, if later. The message should include the vessel's name, call sign, grt, maximum draft, and destination.

Vessels must confirm their ETA 3 hours prior to arrival or as soon as practicable when within VHF range on VHF channel 9. All times should be given in local time.

All inbound vessels must obtain permission from Harwich VTS prior to entering the VTS area. They must also report on VHF channel 71 when passing the following positions (Reporting Points):

- a. 52°03.7'N, 1°42.0'E. (N Shipwash Outer Approach—N approach).
- b. 52°01.7'N, 1°38.3'E. (N Shipwash Lighted Buoy—N approach).
- c. 51°53.8'N, 1°33.6'E. (Walker, formerly Shiphead Lighted Buoy—S approach, transfer from Sunk VTS).
- d. 51°59.0'N, 1°35.6'E. (Mid Bawdsey—N approach).
- e. 51°58.6'N, 1°28.0'E. (Cutler—N approach, inshore route).
- f. 51°53.2'N, 1°18.9'E. (Stone Banks—S approach, inshore route).
- g. 51°56.8'N, 1°30.7'E. (Harwich Approach (HA), formerly Shipway Lighted Buoy).
- h. 51°56.0'N, 1°22.2'E. (Harwich Channel No. 7).
- i. 51°58.9'N, 1°16.6'E. (Orwell No. 2, Ipswich approach—transfer to Orwell Navigation Service).

All vessels must maintain a continuous listening watch on VHF channel 71 while within the VTS area and report when anchoring or berthing.

All vessels must obtain permission before getting underway from an anchorage or leaving a berth. They must also report when clear of an anchorage or berth.

All outbound vessels must give an ETD at least 2 hours in advance to Harwich VTS, with a confirmation 30 minutes prior to departure (ETD will not be accepted more than 3 hours in

advance). They must also obtain permission from Harwich VTS to leave. Permission to leave is valid for only 15 minutes. If the vessel has not cleared, new permission must be obtained.

Outbound vessels must report to Harwich VTS on VHF channel 71 when passing the following positions (Reporting Points):

- a. 51°59.8'N, 1°14.4'E. (Orwell No. 4—preliminary).
- b. 51°58.9'N, 1°16.6'E. (Orwell No. 2—transfer from Orwell Navigation Service).
- c. 51°56.9'N, 1°13.3'E. (Erwarton—River Stour).
- d. 51°55.8'N, 1°22.8'E. (Haven No. 8 Lighted Buoy).
- e. 51°55.7'N, 1°30.7'E. (Rough—Southbound).
- f. 51°56.5'N, 1°30.6'E. (Cross—stating if northbound or southbound).
- g. 51°53.2'N, 1°18.9'E. (Stone Banks—Southbound, inshore route).
- h. 51°58.6'N, 1°28.0'E. (Cutler—Northbound, inshore route).
- i. 51°53.8'N, 1°33.6'E. (Walker, formerly Shiphead Lighted Buoy—Southbound, transfer to Sunk VTS).
- j. 51°59.0'N, 1°35.6'E. (Mid Bawdsey—Northbound).
- k. 52°01.7'N, 1°38.3'E. (N Shipwash—Northbound).

Vessels with a draft of 7.2m or over are required to exhibit the signals prescribed for vessels constrained by their draft when approaching and entering the harbor.

Only vessels constrained by their draft or specifically authorized may use the inner part of the Harwich Deep-Water Channel, which lies W of Harwich Approach (HA) Lighted Buoy (formerly Shipway Lighted Buoy) (51°56.7'N., 1°30.8'E.); other vessels of more than 50 grt must use the respective inbound or outbound traffic lanes and keep clear of the deep-water channel.

Vessels of more than 50 grt must have special permission from the harbormaster to enter or leave the port by the Medusa Channel.

Overtaking of or by a vessel carrying LNG is prohibited while within the harbor area.

Vessels shall not enter the deep-water channel so as to hazard or impede the movement of another vessel in that channel.

Anchoring and fishing are prohibited within the vicinity of the inner approach and entrance channels.

Anchorage.—Parkeston Anchorage Area, situated N of Parkeston Quay, has depths of 4.7 to 7.3m and is generally limited to vessels of less than 115m in length and 5.5m draft. Erwarton East and West Anchorages, situated close W of Parkeston Anchorage, have depths of 5.4 to 10m.

Shelf Anchorage Area, situated on the W side of the harbor channel, has depths of 3.2 to 5.5m and is generally limited to vessels of less than 90m in length and 3.7m draft.

Caution.—Numerous unlit mooring buoys are situated close to the fairway in the rivers.

The harbor is accessible under all weather conditions, but deep-draft vessels may be restricted as to the time of entry by tidal considerations.

High speed craft operate in the approaches to Harwich.

4.17 The River Stour provides access to Mistley and Manningtree, which are situated about 8 miles above Harwich. The depths in the river decrease rapidly to the W of Parkeston.

Small vessels, with drafts up to 2m, can reach Manningtree at HW. **Mistley** (51°56.7'N., 1°04.8'E.) is located on the S bank of the river and provides five berths. Baltic Wharf, the main berth, is 200m long and has a depth of 1.3m alongside. Vessels up to 3,500 dwt can be handled with drafts up to 5.3m at HWS and 4m at HWN. Vessels lie aground at LW. Local pilots for the river are available. At Cattawade, 0.5 mile above Manningtree, the river is closed by a barrage.

Ipswich (52°03'N., 1°10'E.)

World Port Index No. 31550

4.18 Ipswich stands on the banks of the River Orwell, about 7.5 miles above its entrance, which is located E of Shotley Point. The harbor consists of a wet dock and several riverside quays.

Tides—Currents.—Tides rise about 4.2m at springs and 3.4m at neaps.

Close within the entrance to the river, the tidal currents set NNW and SSE with spring velocities of up to 1.5 knots.

Depths—Limitations.—The navigable fairway has a dredged depth of 5.6m as far as Ipswich, but narrows to a minimum width of about 90m.

In the approaches to Ipswich, a bridge, with a vertical clearance of 38m, and two overhead power cables, with vertical clearances of 46m, span the river.

The wet dock is entered through a lock, 91m long and 14.5m wide. It has depths over the sill of 7.1m at HWS and 6.3m at HWN. Vessels up to 80.76m in length can enter by using the lock. Vessels up to 114m in length, 13.8m beam, and 5.5m draft can enter the dock by canaling through the lock at HW. There is 1,750m of total berthage within the dock, with depths of 3.7 to 6.7m alongside. There are facilities for yachts at the N side of the dock.

Cliff Quay has 1,130m of total berthage and a depth of 8.2m alongside.

West Bank Terminal has 320m of total berthage and a depth of 6.5m alongside.

Power Station Jetty has 150m of total berthage and a depth of 8.4m alongside.

There are facilities for container, bulk, tanker, and ro-ro vessels within the port. Generally, vessels up to 140m in length and 7.5m draft can be handled. Vessels up to 148m in length and 8.4m draft have been handled at HWS.

Aspect.—The banks of the river run mostly parallel and are well-wooded. A marked channel leads up the river to the harbor. Several yacht marinas are situated along the river and a water-skiing area, marked by small buoys, lies adjacent to the navigable channel.

At Ipswich, a conspicuous power station, with three tall chimneys, stands on the E shore of the river.

Pilotage.—See [Pilotage for Harwich in paragraph 4.16](#). [Pilotage for the River Orwell is compulsory.](#)

Regulations.—The Orwell Navigation Service operates a Port Control and Information Service within the river.

All vessels must maintain a VHF listening watch when underway as directed by the Orwell Navigation Service. Vessels without an operational VHF should make contact by telephone.

All inbound vessels should report to Ipswich Port Radio on VHF channel 68 on passing the following Reporting Points:

1. Fagbury Buoy (51°57.9'N., 1°16.9'E.).
2. No. 4 Lighted Buoy.
3. Cathouse Lighted Buoy.
4. No. 9 Lighted Buoy.
5. On berthing.

Local weather, visibility, tides, and general marine information are available upon request. The Orwell Navigation Service may be contacted by e-mail, as follows:

ipswich@abports.co.uk

Caution.—Several submarine cables lie across the entrance to the lock and the river and may best be seen on the chart.

Harwich to Shoebury Ness

4.19 The Naze (51°52'N., 1°17'E.), located 4 miles SSW of Landguard Point, is a cliff similar to Bawdsey Cliff. A conspicuous brick tower, 49m high, stands on a summit, close within the edge of the cliff.



The Naze Tower

Hamford Water, a narrow creek, is entered between Blackman's Head and The Naze. It is approached by crossing Halliday Rock Flats, which have a least depth of 1.2m. The depths increase within the entrance of the creek, but the entire area within 4 miles W of The Naze is broken up by islands, mud flats, and creeks, which dry. Several yacht marinas are situated within this area.

The NW shore of the Thames Estuary between The Naze and Shoebury Ness, 28 miles SW, is broken by the entrances to the River Colne, the River Blackwater, the River Crouch, and by several small creeks which are located S of the River Crouch. The shore in the N part consists mainly of cliffs, up to 10m high, with many buildings standing on them. It is backed by higher land. The shore in the S part is low and fringed by extensive mud flats and sands.

A pier extends SE for 0.4 mile from the coast at Walton-on-the-Naze, a small resort town, situated 1.3 miles SSW of The Naze.

Frinton-on-Sea (51°50'N., 1°15'E.), a resort town, stands 2.7 miles SW of The Naze, at the SW end of a row of cliffs. The turret of a hotel, standing at the W end of the town, is conspicuous. The southwesternmost of two tall buildings, which stand 0.2 mile apart in front of the town, is prominent.

Holland-on-Sea, a small resort, is situated 2.5 miles SW of Frinton. A prominent radar mast, 60m high, stands at Holland Haven, at the NE end of the resort. A prominent church, with a square tower, stands on the highest part of the background, 1.2 miles N of the haven, and can be seen through the trees from seaward.

Clacton-on-Sea (51°47'N., 1°09'E.), a resort town, is situated along the shore, 4 miles SW of Frinton. The coast in this vicinity is protected by groins, the seaward ends of some being marked by beacons. Several martello towers stand on the low coast between Clacton and Colne Point, 4 miles W. The town is fronted by a pier, 0.2 mile long, which small craft may berth alongside.

Caution.—An area, in which obstructions lie, is located about 1 mile SSE of the pier at Clacton and may be best seen on the chart.

Several outfall pipelines, which extend up to about 0.4 mile seaward, are located along this stretch of coast and may best be seen on the chart.

4.20 The Wallet (51°46'N., 1°13'E.) is a coastal channel leading from The Naze to Colne Point. The shoals fringing the coast lie on its NW side and Gunfleet Sand lies on its SE side. The latter shoal was [previously described in paragraph 4.6](#) with East Swin or King's Channel. This channel, which is marked by lighted buoys, forms the approach to the River Colne and the River Blackwater, which discharge into its W end. Swire Hole is a pocket lying at the W end of The Wallet. Goldmer Gat, the N and main entrance into The Wallet is located 5.5 miles WSW of Sunk Light Vessel. (51°51'N., 1°35'E.). It lies between the NE extremity of Gunfleet Sand and West Rocks, 2 miles N. The greatest depths are found along the NW edge of Gunfleet Sand.

The shoals which fringe the coast have depths of less than 5.5m and extend up to 2 miles offshore. Tripod, a shingle patch, lies about 1 mile ESE of Clacton and has a least depth of 2.5m. Collier, a shoal with a least depth of 1.5m, lies 1.3 miles SSW of Clacton. Priory Spit, with a least depth of 1.8m, extends up to about 1.5 miles S from a point on the coast, 2 miles WSW of Clacton.

Buxey Sand, a shoal bank which dries, lies centered 5 miles S of Colne Point. Spitway, a channel for small craft, leads between the W end of Gunfleet Sand and the E end of Buxey Sand and has a least depth of 1.2m.

Anchorage.—During offshore SE or SW gales, there is well-sheltered anchorage in every part of The Wallet as the sands, forming its boundaries, act as breakwaters and the sea becomes comparatively smooth, even when the banks are not well-covered. A convenient berth is in a depth of 9m about 3.5 miles SSE of the tower on The Naze. Good anchorage is also available, in depths of 11 to 14m, in Swire Hole, about 3.8 miles SSE of Colne Point.

Caution.—Numerous wrecks, some dangerous, lie in the vicinity of The Wallet and may best be seen on the chart.

4.21 The River Colne and The River Blackwater.—The rivers are approached through a common estuary at the SW end of The Wallet. The entrance channels lie between the shoals which extend from both shores and are marked by buoys, beacons, and lighted buoys. The main fairway, with a least depth of 4.3m, leads between Eagle and Knoll Shoals. The N fairway, with a least depth of 4.1m, leads N of Eagle Shoal and S of Priory Spit and Colne Bar; it should only be used by vessels with local knowledge.

Close W of Eagle Shoal, the entrance channels divide. The fairway leading into the River Colne extends NNE and passes between Colne Bar and Bench Head Shoal. The fairway leading into the River Blackwater extends WNW and passes between Bench Head Shoal and Saint Peters Flats.

Colne Point (51°46'N., 1°03'E.), located on the E side of the entrance to the River Colne, is low and marshy and marked by two small beacons. Colne Bar, with depths of less than 1.8m, extends up to 1.5 miles S of the point. Eagle Shoal, with a least depth of 0.9m, lies about 2 miles SSE of Colne Point.

Sales Point (51°45'N., 0°56'E.), the S entrance point of the River Blackwater, is located 4 miles WSW of Colne Point and is low. A chapel stands 0.4 mile S of this point and is conspicuous. Several beacons, posts, and remains of targets stand near the shore, close S of Sales Point. Wavebreaks, formed by sunken barges, lie close N and SSE of the point and are marked by lighted beacons.

The conspicuous building of Bradwell nuclear power station, 45m high, stands on the S bank of the River Blackwell, 1.5 miles W of Sales Point.

Saint Peters Flats, which dry up to 3.5m, extend 2.7 miles from the shore, S of Sales Point. Knoll and Batchelor Spit are shoal areas, with depths of less than 1.8m, which extend E from St. Peters Flats.

Mersea Island (51°47'N., 0°57'E.), which forms the N shore between the rivers, is low and wooded. The prominent towers of churches, standing near the E and W ends of the island, can be seen through the trees from seaward.

Bench Head, with depths of less than 1.8m, lies at the extremity of the shoals which extend up to 2.5 miles SE from Mersea Island. Cocum Hills and Mersea Flats front the S shore of the island.

Pilotage.—Pilotage is compulsory for the River Colne and River Blackwater, with certain exceptions. Pilots are available from the Haven Ports Pilotage Service and will generally board vessels in the vicinity of Sunk Light Vessel. [See Pilotage for Harwich in paragraph 4.16.](#)

Caution.—Oyster beds occupy parts of the fairways within the rivers.

4.22 The River Colne (51°46'N., 1°02'E.) flows for 32 miles and enters the sea near Colne Point. Many obstructions exist within this river and the tidal influence is checked and retarded. In its lower part, the banks are broken up by several tributaries. Brightlingsea Creek and Alresford Creek are located on the E side; Pyefleet Channel and Geedon Creek are located on the W side. The fairway has a least depth of 3m as far as Brightlingsea.

Brightlingsea (51°48'N., 1°02'E.), a small port, stands on the N side of Brightlingsea Creek, which enters the river close N of the entrance. A quay, with 234m of total berthage, has a depth

of 5.5m alongside at HWS. Vessels up to 3,600 dwt, 100m in length, and 5.2m draft can be accommodated. Vessels with bowthrusters up to 120m in length can be handled. The harbor can be contacted by VHF and is mostly used by coasters, yachts, and fishing vessels.

Colchester (51°53'N., 0°55'E.) ([World Port Index No. 31506](#)) stands on the W bank of the river, 7 miles above Brightlingsea. The port provides about 500m of total commercial berthage. Vessels up to 96m in length and 4.7m draft can be handled at HW.

Pilotage is compulsory for vessels over 50m long. Requests for pilots should be sent to the harbormaster 12 hours before arrival; the harbormaster can be contacted on VHF channel 68. The pilot boards in the vicinity of No. 13 Lighted Buoy, close to the entrance of Brightlingsea Creek.

All commercial vessels must obtain permission from the harbormaster before entering, departing, or moving on the River Colne.

A flood barrier, equipped with traffic lights, is located at Wivenhoe. When the traffic lights (three vertical red lights) are displayed, vessels must contact the harbormaster before transiting through the barrier.

The harbor is mostly used by small coasters.

Caution.—A firing danger area is situated on the W shore of the river between Pyefleet Creek and Geedon Creek.

4.23 The River Blackwater (51°45'N., 0°55'E.), entered between Sales Point and the S side of Mersea Island, leads about 6 miles WSW to Osea Island, and then 4 miles NW to Maldon. There are depths of 5.5 to 20m in the entrance, but above Shinglehead Point, 2.2 miles NW of Sales Point, they become irregular. Depths of 2.3 to 3.5m lie in the fairway up to 4.5 miles above Shinglehead Point. At Maldon, the channel has a depth of 3.4m at HWS, but nearly dries out at LW. Several yacht marinas are situated along the river. A wharf at Maldon can handle small coasters up to 600 grt.

The banks of the river are broken by the entrances to numerous creeks and fringed by extensive mud flats. A detached breakwater, about 300m long, lies off the entrance to a creek, in the vicinity of the power station which stands 1.5 miles above the entrance to the river.

4.24 The River Crouch (51°37'N., 0°56'E.), after flowing between low and embanked lands, empties into the Thames Estuary between Holliwell Point, 6.5 miles S of Sales Point, and Foulness Point, 1.1 miles SSE. The river may be approached through Ray Sand Channel or Whitaker Channel. The former leads from the SW end of The Wallet over a bar, which dries up to 1.7m, and should only be used by vessels of light draft with local knowledge. Whitaker Channel, which is marked by lighted buoys, leads from the W end of East Swin or King's Channel to the river entrance.

Foulness Sand, which dries, extends up to 5.5 miles ENE from Foulness Point. Whitaker Spit, with depths less than 1m, extends about 3 miles NE from the NE end of Foulness Sand. This spit connects to another shallow spit, which extends ENE from Buxey Sand and forms a bar between Whitaker Channel and East Swin or King's Channel. It is reported (2000) that a buoyed channel, with a least depth of 3m, leads over this bar. It is also reported that this channel is no longer dredged.

Several marinas are situated within the river. A timber wharf is situated in the vicinity of Wallasea Island, 3 miles above the river entrance. It is 130m long and can handle small vessels up to 5.2m draft at HW.

Burnham (51°37'N., 0°50'E.), the principal yachting center of the SE part of England, is situated on the N shore, about 5 miles W of the river entrance. There are marinas and extensive facilities for boats and small craft.

Hullbridge is situated on the S side of the river, about 12 miles above Burnham and has a quay, which dries. Small vessels, with drafts up to 3.5m, can reach this quay at HWS.

Pilotage.—Local pilots for the River Crouch are available from the Haven Ports Pilotage Service and will generally board vessels in the vicinity of Sunk Light Vessel. [See Pilotage for Harwich in paragraph 4.16.](#)

4.25 Foulness Point (51°37'N., 0°57'E.), the S entrance point of the River Crouch and the NE extremity of Foulness Island, is low.

A conspicuous radio tower stands 1 mile SW of the point. Another two conspicuous radio towers, 76m high, stand 1.7 miles SW of the point. The spire of the church at Churchend, 2.5 miles WSW of the point, is prominent from seaward.

Shoebury Ness (51°31'N., 0°47'E.), a low point, is located 8.7 miles SW of Foulness Point. The coast between consists of embanked marshland, broken only by the entrance to Havengore Creek, 3.2 miles NE of the point, which is used by yachts and small craft. A radio mast and a gas-holder tank, both conspicuous, stand close W and 0.7 mile N, respectively, of the point. The church at Great Wakering, 2.3 miles NNE of the point, can sometimes be identified from seaward. The town of Shoebury stands 0.5 mile NE of the point.

Maplin Sands (51°35'N., 0°58'E.), of which Foulness Sands forms the NE part, extends up to about 3 miles from this stretch of coast and form the N limits of East Swin Channel, West Swin Channel, and The Warp.

[For the continuation of the River Thames W of Shoebury, see paragraph 5.2.](#)

Caution.—Firing danger areas exist on Maplin Sands and Foulness Sands. Experimental firing is frequently carried out in all conditions of weather and tide.

Yachts and small craft proceeding to Havengore Creek must obtain permission from the Range Authorities prior to making the passage.

Obstructions to navigation, posts, and beacons of no navigational significance, some of which show lights, may be encountered throughout Maplin Sands.

North Foreland to the Isle of Sheppey

4.26 North Foreland (51°23'N., 1°27'E.), the SE entrance point of the Thames Estuary, is located at the NE end of the Isle of Thanet. It is formed of nearly perpendicular chalk cliffs, 18 to 37m high. A main light is shown from a conspicuous white tower, 26m high, standing on the rising ground close within the edge of the cliff. A prominent radio mast is situated close NNE of the light.

The coast in this vicinity consists of cliffs fringed by rocky ledges, which extend up to about 0.2 mile offshore. A very



North Foreland Light

conspicuous building stands 1.5 miles WNW of the light and, from N, is the highest landmark in this area.

A conspicuous castle-type building, with a tower, stands on White Ness, 0.7 mile NNW of the light.

Elbow (51°22'N., 1°31'E.), a sandy ridge, forms the NE extremity of the shoal bank extending from North Foreland. It is marked by a lighted buoy which is moored about 3 miles ENE of North Foreland Light.

Caution.—Outfall pipelines extend up to 2 miles seaward from the coast in the vicinity of North Foreland and may best be seen on the chart.

Numerous submarine cables, some disused, extend seaward from the shore in the vicinity of North Foreland and may best be seen on the chart.

Note.—See Pub. 191, Sailing Direction (Enroute) English Channel for information concerning the waters to the S of North Foreland and the mandatory CALDOVREP reporting system for the approaches to the Dover Strait TSS.

4.27 Margate (51°23'N., 1°23'E.), a resort town, stands 2.5 miles NW of North Foreland. There is a small harbor, which dries, formed by a curved pier. It is mostly used by yachts and pleasure craft. Vessels with drafts up to 3.5m can lie alongside at HWS. A light is shown from a prominent tower, 20m high, standing on the head of the pier.

A large and conspicuous building, 62m high, stands near the shore, 0.3 mile SSW of the head of the pier.

The ruins of a former pier lie about 0.3 mile N of the root of the harbor pier.

Good anchorage, sheltered from S winds, can be obtained in depths of 11 to 17m, in Margate Road, about 1.7 miles NE of the harbor.

Reculver (51°23'N., 1°12'E.), a village, is situated 7 miles W of Margate. The coast between is composed of cliffs in its E part, but is low and flat in the W part. The Minnies, a ledge of drying rocks, lie 0.2 mile offshore at the junction of the cliffs with the low coastline; this junction, located 3.7 miles W of Margate, is commonly called Cliff End.

Two very conspicuous towers, known as The Reculvers, stand at the site of a ruined church near the shore at Reculver. A church, with a very prominent spire, is situated at Birchington, 3 miles WSW of Margate.



The Reculvers (towers)

Herne Bay, a resort town, extends for nearly 1 mile along the shore, 3 miles W of Reculver. The coast between is composed of cliffs, 30m high, fronted by drying sand banks and rocks. The ruins of a promenade pier project 0.6 mile NNW from the W end of the town, and a light is shown from the former pier head. A prominent clock tower stands on the shore near the center of the town, and a conspicuous water tower stands 0.5 mile SE of it. A prominent windmill stands on high land, 1.1 miles SSE of the clock tower.

Sand banks, rocks, and shoals fringe this stretch of coast. In the E part, they form the S sides of South Channel and Gore Channel. In the W part, they extend up to 2 miles offshore.

Caution.—Several outfall pipelines extend seaward from the shore along this stretch of the coast.

Oyster beds occupy a considerable area off this part of the coast and vessels grounding are liable for damages.

4.28 Whitstable (51°22'N., 1°02'E.) ([World Port Index No. 31360](#)), a small port, is the center of a declining oyster fishery. It stands 3.5 miles W of Herne Bay, on the E side of the entrance to The Swale.

Tides—Currents.—Tides in the approaches rise about 4.2m at springs and 3.3m at neaps.

Depth—Limitations.—The harbor is tidal and dries at LW. There is 482m of total commercial quayage, with depths alongside of 4.7m at HWS and 3.7m at HWN. In addition, there is 158m of berthage for fishing vessels. Vessels up to 3,270 dwt and 99m in length can be accommodated, with drafts up to 4.5m at HWS and up to 3.6m at HWN.

Aspect.—Whitstable Street Lighted Buoy is moored 2 miles N of the harbor. Whitstable Street is an ancient causeway, part of a submerged town, which is now a hard drying ridge. It extends 1 mile N from the shore, close E of the town. Vessels should approach the port on a SSE course, and then shape a course for the sector light, which leads into the harbor.

A church, with a square tower surmounted by a flagstaff, stands 0.7 mile SE of the harbor entrance and is prominent. A mill and a silo, both conspicuous, stand 1 mile S and at the N side, respectively, of the harbor.

Pilotage.—Pilotage is compulsory for vessels of 50m in length and over. Pilots are provided by the Medway Navigation Service (see paragraph 5.19) and board, as follows:

1. Vessels over 80m in length—In position 51°25'N, 1°30'E, between NE Spit Lighted Buoy and Elbow Lighted Buoy (see [NE Spit pilot station under the Thames Estuary in paragraph 5.19](#)).

2. Vessels between 50m and 80m in length—At Whitstable Lighted Buoy (51°23.9'N., 1°01.6'E.).

Vessels should send a request for pilotage and an ETA to the Medway Navigation Service at least 24 hours in advance. Vessels should also send an ETA to the port 12 hours in advance. [Also see pilotage for the Thames Estuary in paragraph 4.1.](#)

Anchorage.—Vessels can anchor off Whitstable and the E entrance of The Swale. The best berths are in depths of 3 to 5m, mud, 2.5 miles N of the harbor or, in depths of 3.5 to 5m, 3.7 miles NE of the harbor.

4.29 Inshore Passage.—South Channel (51°24'N., 1°21'E.), which includes Margate Road, is of little use except for vessels of light draft. It lies between Margate Sand, on the N side, and the shoals fringing the mainland coast, on the S side. There are depths of over 6m as far W as Cliff End Banks, where there is a tendency for a bar to form. Shoaling has also been reported within this channel. Cliff End Banks, with a least depth 4.2m, consists of patches which extend across the channel, 3.5 miles W of Margate.

Vessels can anchor, in a depth of 12m, sand and mud, in the narrow part of South Channel; the best berth, partially-protected from N, is 2.3 miles WNW of Margate.

Gore Channel (51°24'N., 1°15'E.), a continuation of South Channel, lies between Margate Hook, on its N side, and the shoals fringing the coast, on its S side. Margate Hook, which dries, is marked by a beacon and a pocket, with depths of up to 14m, lies close off its S side. At the W end of Gore Channel, there are depths of 2.7 to 4.3m and isolated shoal patches, with depths of 1.5 and 1.8m.

Horse Channel (51°25'N., 1°10'E.), which is marked, leads WNW from Gore Channel and has a least depth of 2.2m. Copperas Channel, on the S side of Horse Channel, has a least depth of 1.8m and is unmarked.

Small vessels can anchor, in a depth of 7m, in Gore Channel, about 0.4 mile off the S side of Margate Hook.

Four Fathoms Channel (51°26'N., 0°58'E.) is the name given to the passage which leads across Kentish Flats to The Cant. It is now charted (1990) as lying between Spaniard and Middle Sand, and a position S of Spile (51°27'N., 0°57'E.). There is a least charted depth of 2.1m in this channel and the name, Four Fathoms, is no longer applicable, as there is now only a depth of 7.3m at HWS.

Middle Sand, lying 5 miles NNW of Whitstable, dries 0.6m and is marked by a beacon. S pile, which dries, lies about 2 miles farther W. East Spaniard, lying 4.5 miles N of Whitstable, dries, and Spaniard, about 1.7 miles W of East Spaniard, has a depth of 1.8m.

Overland Passage (51°25'N., 1°03'E.) extends from the W end of Horse Channel in a WNW direction across Kentish Flats to Four Fathoms Channel and through The Cant. The passage, which has a least depth of 2.4m, leads between East Spaniard, Spaniard, and Spile, on its N side, and the shoals extending from the Isle of Sheppey, on its S side.

Caution.—Numerous wrecks and obstructions lie in the vicinity of the Overland Passage and may best be seen on the chart.

4.30 The Isle of Sheppey (51°24'N., 0°53'E.), located at the SW end of the Thames Estuary, is separated from the N coast of Kent by The Swale. The SE and NW parts of the island are low. Its S side is also low, with the exception of the elevations around the villages of Harty and Elmley. The N part of the island is the highest and rises to height of over 70m mid-way along its coast.

Shell Ness (51°22'N., 0°57'E.), the SE extremity of the island, is located 3 miles W of Whitstable and forms the NW entrance point of The Swale. Leysdown, a village and resort camp, stands 1.8 miles NW of this point and is prominent. A conspicuous church stands 0.5 mile W of the village.

Warden Point (51°25'N., 0°54'E.), formed by a steep clay cliff, is located 3 miles NW of Shell Ness and is 46m high. The coast between is low and fringed by an extensive mud and sand bank, which dries up to 2.4m.

Minster, a small town, stands 3.5 miles W of Warden Point. The coast between consists of clay cliffs, 6 to 48m high. An abbey, surmounted by a spire, stands in the town and is the most conspicuous object on the island, being visible from all directions.

Numerous wrecks and obstructions extend up to 1 mile from the shore in the vicinity of Minster and are marked seaward by a buoy.

The Cant, an extensive shoal area, lies off the Isle of Sheppey, between Warden Point and Garrison Point. Its N edge is steep-to.

The Swale (51°22'N., 0°57'E.), a narrow and tortuous channel, separates the Isle of Sheppey from the coast of Kent and is about 12 miles long. Its entrances are known as East Swale and West Swale. [West Swale is described in paragraph 5.21.](#)

East Swale (51°22'N., 0°57'E.) is approached between Columbine Spit and Pollard Spit. The former, lying on the N side of the entrance, dries and extends about 2 miles NE from Shell Ness. Pollard Spit, which also dries, extends about 2 miles N from the coast of Kent and forms the W side of the approach to Whitstable.

The entrance channel is marked by lighted buoys, beacons, and buoys which are moved as necessary. Vessels should stay in the fairway channel as it is bounded, on each side, by oyster beds. Local knowledge is advisable and vessels should not attempt this passage at night. There are several facilities for yachts and pleasure craft within the East Swale.

Garrison Point (51°27'N., 0°45'E.), the NW extremity of the Isle of Sheppey (51°29'N., 0°51'E.) is a name frequently used and is located 3 miles WNW of Minster; [the point is described in paragraph 5.19.](#)

The Nore (51°29'N., 0°51'E.) is a name frequently used to refer to the area lying N of the Isle of Sheppey, where The Warp leads into the approach channels for the River Medway and Sea Reach..